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ABSTRACT

This study examines how a French- and Spanish-speaking child acquired English as a third language. It describes the linguistic experience of the 10-year old boy whose French and Spanish home, school, and playmate environments were changed to English school and playmate environments with French being maintained exclusively at home with the child's father. The dissertation describes a "natural" transition to English with no formal instruction in English being given the child. It is believed that examination of problems encountered by the child on making the linguistic transition, conclusions of the study, and suggestions concerning the learning process will be helpful to elementary school teachers of English as a second or third language. Two major language areas covered in the study are grammar and phonology. The chapter dealing with grammar is divided into two sections: morphology and syntax, and sentence formation. Errors in both grammar and phonology are classified, described, and discussed. A separate chapter on research in bilingualism and language acquisition is included. (RL,

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ENGLISH AS A THIRD LANGUAGE:
ITS ACQUISITION BY A CHILD
BILINGUAL IN FRENCH AND SPANISH

by

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DEDICATION

To my husband

Guy André Chamot

my parents

Mr. and Mrs. Ben Forrest Uhl

and my son

Jean-Marc

all of whom made this possible

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CHAPTER I

INTRODUCTION

1. Intent

This study was undertaken in order to discover how a French and Spanish speaking child can acquire English as a third language. It describes the linguistic experience of a ten year old boy who changed from the combination of a French home environment and Spanish school and playmate environment, to an English school and play environment with French maintained at home only by his father.

It shows what might be termed a natural acquisition of English; that is, no special teaching was provided either in the classroom or at home. He was expected to pick up English from school, other children, and his new mother as well as he could.

It was felt that this method of learning might indicate the most persistent problems encountered in English by a child with his language background. It was hoped that by identifying these problems, some conclusions and suggestions might be found which could be helpful to elementary teachers of English as a second or third language. An attempt was made to distinguish between problems caused by non-mastery, which could be expected to be solved with time

and exposure to English, and those caused by interference from his other languages, which could be solved best by specific teaching.

The two major language areas covered in the study were grammar and phonology. The chapter dealing with grammar was divided into two sections: morphology and syntax, and sentence formation. Errors in both grammar and phonology were classified, described and discussed. It was felt that the teacher of English as a second or third language would find it helpful to know which specific errors might be expected at different stages during a child's acquisition of English, and also which errors seemed most persistent and difficult to overcome.

2. Biographical Background

The subject of the study was Jean-Marc Chamot, born November 5, 1958, in Cochabamba, Bolivia. His parents were French speaking, but his environment was almost completely Spanish. In infancy and early childhood he spent brief holidays in alternate years with his paternal grandparents in Lausanne, Switzerland, where his Vaudois French was strengthened. At age one and a half, the family moved to Santa Cruz, Bolivia, where he acquired this area's type of Spanish.

The lack of adequate schooling presented a problem and several nursery schools and kindergartens were tried

but found unsatisfactory. Finally he settled in a Bolivian school at the age of Seven. The instruction was completely in Spanish and his playmates were all Bolivian, so French was spoken exclusively with his parents and some of their friends.

In 1966 his father was transferred to Bogotá, Colombia, and Jean-Marc attended Colegio Helvetia there for a short while. Most of the instruction was in Spanish, but French and German were taught as foreign languages. He did not adjust satisfactorily to this school, and so returned to his previous school in Bolivia and boarded with a French speaking family there.

In March, 1968, he finally left Bolivia and returned to Bogotá, where he was enrolled in Colegio Estados Unidos, an American school geared for Colombian students. Here he was placed in the English Preparatory section with other students who knew no English. Unfortunately, the teacher was inexperienced and taught mostly in Spanish. English instruction was limited to lists of nouns and verbs for memorization.

In May he accompanied his family for a six weeks holiday in Switzerland, then returned to Bogotá for another six weeks at the same school.

At this time his father was still speaking to him in French and his new mother spoke Spanish with him.

However, his parents communicated with each other in English, so he did begin to hear the language. Thus, in September, 1968, at the age of nine years ten months, Jean-Marc was using two languages for communication: French with his father and French speaking relatives and friends, and Spanish with his mother, teachers, school mates and others in his daily environment. At this point he was a coordinate bilingual, as defined by Saville & Troike (1970), p. 16:

> "A coordinate bilingual has typically learned his two (or more) languages in separate functional contexts, where it was necessary to learn each language for communication in specific situations, and little or no direct translation was possible (e. g., home vs. playmates, parents vs. grandparents, etc.)"

It was at this point that Jean-Marc arrived in the United States and was enrolled in the fourth grade at Highland Park School in Austin, Texas. His teacher was an older woman, somewhat old-fashioned in approach, who spoke neither French nor Spanish. There were no Spanish surname students in his class, and he never mentioned speaking Spanish or French with anyone at school.

He continued to speak Spanish with his mother at home, however, until after Christmas, which was spent in Tulsa, Oklahoma, with his American grandparents. When the family returned to Austin in January, his mother began speaking to him almost exclusively in English. But his father continued to speak French with Jean-Marc for the

remainder of the time covered by the study, that is, until June, 1969.

Jean-Marc was strongly motivated to learn English, as he could not communicate at school without it. He suffered a considerable amount of teasing from the other children, and felt they didn't like him because he couldn't speak good English. By the spring he began to have a few friends, and he somehow managed to pass the year. It was recommended at the end of the school year that he have remedial reading during the summer to prepare him for fifth grade, and this was done.

3. Limitations of Study

The principal limitation is that inherent in all case studies, that is, the question of relevance of one individual's experience to the experience of a group. Insofar as the subject is "normal" or "average", he is a good example of what can be expected in the middle range of a group. His personal peculiarities, however, will not necessarily be applicable to others his age. The problem is to define what is typical and therefore significant about a particular subject. In the case of a bilingual subject the problem is intensified because any bilingual person in this country is certainly different from the majority of the population, and therefore, it could be argued, atypical.

In the case of Jean-Marc, perhaps his greatest difference from most other bilingual children in America, is that he did not suffer from the socioeconomic disadvantages which are usually found in American children for whom standard English is a second language or dialect. This could be considered a plus which might have facilitated his learning of English.

On the minus side is the fact that his home and family life had not been stable, and this doubtless caused certain emotional apprehensions which may have interfered with his English acquisition.

Aside from these two considerations, he appears to be an "average" child in terms of school achievement, as demonstrated by his subsequent successful progress in the American school system.

It was felt that in his case, school achievement was a more accurate indicator of ability than an intelligence test, as many specialists in the field of bilingual education are convinced that intelligence tests are so verbally and/or culturally weighted as to make their validity for bilingual subjects very questionable (Andersson & Boyer, 1970; Saville & Troike, 1970).

4. Related Research

Much of the research relating to bilingualism as a phenomenon has to do with programs for teaching bilingual children in American schools, measurement and analysis of

bilingualism, and the effect of bilingualism on intelligence and school achievement. Almost all the studies deal with a group or groups of children learning a second language or receiving instruction in two languages, though there have been a few studies of second language acquisition and concurrent acquisition of two languages by individual children. A review of recent research in the area of bilingualism is included in the first part of Chapter II.

Other research pertinent to the present study is that relating to child acquisition of language. The manner in which a child learns his mother language and the problems he encounters provides a useful developmental guide which can be relevant to the child learning his second or third language. The principal works consulted in this field are reviewed in the second part of Chapter II.

5. Design of the Study

Purpose

This study was undertaken in order to analyze the progress over a nine month period of the acquisition of English by a ten year old boy who was already bilingual in French and Spanish.

Gathering of Data

Samples of the subject's oral language were collected at intervals averaging about twice a month, from October 14, 1968 to June 22, 1969. It was suggested that samples of

the family dinner table conversation be taped, as it was felt that this would be conducive to informal speech reflecting the subject's language performance in an unstructured situation. The tapes were, in fact, almost completely unstructured, though the parents did ask questions and try to elicit conversation when the subject was not very talkative. The exception was in Tape 19, which contains two drills, one grammatical (interrogative transformation drill) and one phonological (light and dark /l/ and English /r/). Since neither of these had many errors or yielded any special insights and Tape 19 was extremely long (250 utterances), these drills were not included in error classification and analysis.

Equipment

The equipment used was a Wollensak tape recorder and standard microphone. The microphone was placed in the center of the table with no attempt at concealment, so that the subject was aware that he was being taped; he enjoyed it thoroughly. In most cases the recordings were quite clear and readily understandable. Some finer phonetic nuances were lost, however, making it necessary to render the phonological sections in broad rather than narrow transcription. Only Tape 23 was discarded as being of such poor recording quality that it was partly incomprehensible.

Method of Analysis

The typescript of the corpus was divided in 3495 utterance units, each of which usually corresponded to a complete intonation contour. The exceptions were utterances that were interrupted or cut off, or ones that started and then trailed off as the subject of conversation changed. The utterance units ranged in length from a single word to subordinate sentences containing as many as eight embedded clauses. Each utterance was numbered according to its position in the tape concerned. Thus, utterance 1:25 was the twenty-fifth utterance in Tape 1. Utterances which did not form complete sentences were either elliptical and the omitted constituents obvious from the context, or else they were one of the following types:

1. yes/no and formula/exclamation

   These consisted of single words or expressions such as yes, no, okay, mh-mm, uh-uh, thank you, thanks, hello, goodbye, oh, gee, gosh, wow, etc.

2. Noun Phrase

   These consisted of a single noun, ART + N, ART + N + N (i. e., a noun compound), (ART) + PREP + N, and similar constructions containing no verb.

For the grammatical analysis, each utterance was

examined for differences from the standard of English with which the subject was in contact. These differences were, for the sake of convenience, labelled "errors", and were described under the following categories:

1. Morphology and Syntax
   a. errors in verb forms
   b. errors in noun forms
   c. errors in pronoun forms
   d. errors in adjective usage
   e. errors in adverb usage
   f. errors in preposition usage
   g. errors in article usage
   h. omission of constituents
   i. redundancy of constituents
2. Sentence Formation
   a. word order errors in simple assertions
   b. errors in negative transformations
   c. errors in interrogative transformations
   d. errors in complement pattern sentences
   e. errors in minor sentence patterns: transitive receiver, indefinite patterns, and passive.
   f. errors in subordination and embedding

Examples of each type of error were given, and in most cases errors could be attributed to either interference or non-mastery.

For the phonological analysis, three minute selections

from each tape were used. Usually these comprised minutes 10 to 13 of each tape, but minutes 12 to 15 were used when the earlier section had long silences or extensive conversation between the parents only. The utterances were then transcribed phonetically, using broad transcription for the most part. Symbols used were those of the International Phonetic Alphabet, with a few minor variations as shown in Table 7 (p. 151) and Table 8 (p. 153).

Items which deviated phonologically from the author's speech or from Central Texas speech were also termed "errors" for convenience, and were classifed as follows:

1. errors in consonants
2. errors in vowels
3. errors in suprasegmentals

Examples of each type of phonological difference were given, and an explanation advanced for their occurrence.

Language Standard

It was necessary to choose a standard of language by which the subject's language could be evaluated. Since the author's own speech was the subject's most constant model, it was used for the English standard. In addition, any items known to be typical of Central Texas were included as part of the English standard.

The French standard was that of Vaud, Switzerland, as spoken by the subject's father. While there were some

complete utterances in French throughout most of the tapes, there were only occasional words in Spanish, making it difficult to relate them to the Spanish standard, which was that of Santa Cruz, Bolivia. Certain phonological characteristics of this Spanish were useful in interpreting some English errors.

Tables

Tables summarizing information on grammatical and phonological errors, rate of progress in mastery of principal errors, and showing the sound systems of the three languages involved, appear in the chapters concerned.

Conclusion

The final chapter of this study reviews the main findings and comments on their implications for the teaching of English to speakers of other languages.

CHAPTER II

RECENT RESEARCH IN BILINGUALISM AND LANGUAGE ACQUISITION

1. Bilingualism

The majority of early studies on bilingualism were concerned with the measurement of its effect on intelligence; most found it to be detrimental. Researchers in this area have become increasingly aware, however, that complex social and psychological factors strongly influence a bilingual child's performance in either of his languages. Many newer studies have concentrated on the analysis of these factors and the development of adequate measurement instruments for each.

Most recent studies show that when groups of bilingual and monolingual children are matched for parental socio-economic status, the bilinguals do at least as well and often better than the monolinguals, especially on non-verbal measures of intelligence. Jones (1960) reviewed the extensive studies made of Welsh-English bilingual children by him and others in previous years. When he matched parental occupations of the bilingual and monolingual groups, he found no significant difference in performance on non-verbal measures. This contradicted previously held opinions about retardation due to bilingualism in Wales. The Peal and Lambert (1962) study in Montreal also showed that bilingual children were far superior to monolingual

ones on both verbal and non-verbal intelligence tests. The only large-scale recent study reviewed which still holds to the notion of a "balance effect" in second language learning is that of Macnamara (1966), who found that Irish bilingual children tested well below the norms established for English children.

Other studies of bilingualism have been case histories of individual children exposed to two languages more or less from birth. They differ from the present study in that only two languages are involved and the period covered is at a younger age. The most complete study is that of Leopold (1939-1947), which in four volumes describes the acquisition of English and German by his daughter, from the babbling stage to age two, with a less detailed treatment of her later language development.

A complete survey of bilingual schooling in America was made by Andersson and Boyer (1970), presenting not only the quite fascinating history of experiments with two languages of instruction in this country, but also present programs, their problems, needs, and methods. A potentially significant hypothesis of this study is that children need to be literate in their mother tongue before they can be truly successful in reading and writing their second language. If this is so, it would cast a certain amount of doubt on the validity of many studies and testing of intelligence

and achievement of bilingual children, as usually speakers of other languages have been expected to operate solely in English once they enter our public school system.

The studies described in this chapter are classified according to type, and are arranged in chronological order under each classification. They include recent studies from 1934 to October, 1971.

a. Studies Concerning the Effect of Bilingualism on Intelligence.

Anastasi and Cordova (1953) used the Cattell 'Culture Free' Test on a group of sixth to eighth grade Puerto Rican children in New York City Schools. Half of the group was given the English version, the other half the Spanish one, and the procedure reversed on subsequent testing two weeks later. The scores were significantly below Cattell's norms, and the authors felt this was due to the low socio-economic status of the parents, a language handicap limiting mastery in both languages, and an uninterested attitude toward the test.

Johnson (1953) studied a group of Spanish-speaking boys ages 9-12 in the southwestern United States. He compared two tests of intelligence to two measures of bilingualism to ascertain whether the instruments measured the same or different factors. The tests used were the Otis Self-Administering Test of Mental Ability (Intermediate), the Goodenough Draw-a-Man Test, the Hoffman Bilingual Schedule,

and the Reaction-Time Test of Bilingualism. This last measures facility of manipulation of symbols in each language by asking the subjects to say as many words in a given language as possible in 5 minutes. After administering the same test in the other language two weeks later, a score is obtained by calculating the ratio between the number of words in each language. He found that the Reaction-Time test measured the same factors as the Hoffman, but was more sensitive. High Otis scores were correlated with low degree of bilingualism (little knowledge of Spanish), but high degree of bilingualism was associated with superior performance on the Goodenough.

Cooper (1958) gave various types of intelligence tests (wholly or partially non-verbal) to fifth grade students in Guam who were bilingual in Chamorros and English. He found that in group tests the California Achievement Test agreed best with teacher ratings of students, and that for indididual intelligence tests the Wechsler Intelligence Scale for Children gave the best prediction of achievement on the CAT.

A sophisticated and comprehensive study of bilingualism was carried out by Peal and Lambert (1962) on a large group of bilingual and monolingual ten year olds in Montreal. The intelligence measures used in this study were the Lavoie-Laurendeau Group Test of General Intelligence, the Raven

Progressive Matrices Test, and the Thurstone Primary Mental Abilities (partial-translated into French). The bilingual children scored higher than the monolingual ones on the non-verbal portions of these intelligence tests and also on the verbal portions. The authors attributed this unexpected finding to the fact that compound bilinguals in particular may develop an ability to separate an object from its symbol and thus think with abstract concepts; in addition, bilinguals may have learned more flexibility in their thinking through developing their skill in code-switching from one language to another. In seeking an explanation for the unusual result of bilingual superiority on verbal intelligence measures, the authors consider several factors. One was that their method of selecting bilinguals for the sample could have favored the more intelligent ones, as size of vocabulary was used for the selection. They also comment on the similarity of much French and English vocabulary, so that transfer would aid a French-English bilingual. In the case of dissimilar languages, however, this benefit of transfer would not exist.

Kittell (1963) made a carefully controlled study of bilingual and monolingual children in grades 3 and 5 in Berkeley, California. They were matched as to parents' occupational class and given the California Short-Form Test of Mental Maturity in grade three and again in grade

five. The bilingual children did significantly better on the second testing and made superior scores to the unilingual fifth grade children. This was particularly true of the bilingual girls. He concludes that intelligence scores in the primary grades do not adequetely measure the ability of bilingual children.

Macnamara (1966) did a comprehensive study of the effect of bilingualism on achievement and intelligence of Irish primary school children. He administered the Jenkins Scale of Non-Verbal Reasoning to the group and compared the results with norms set up for English children. The Irish children obtained significantly lower scores than their English counterparts, and the author attributed this to lack of test sophistication and to poor reading ability which prevented them from reading the directions accurately.

b. Studies Concerning Language Dominance, Recall, Degree of Bilingualism and Interference

Hoffman (1934) devised a Bilingual Schedule which has been used in many subsequent studies to ascertain degree of bilingualism. It is a questionnaire concerning a bilingual's use of each language. A 4-point scale indicates degree to which he uses a language with other members of the family, in reading matter, entertainment, and thinking. In addition to the subjectivity inherent in the responses to any questionnaire, it does not relate language behavior to

social context.

Lambert (1955) used the reaction time in each language as an index of language dominance. The subjects faced a keyboard of eight keys, four for each hand and four different colors on each side of the keyboard. The directions were "Left, red" or "Gauche, rouge", and the reaction time needed to depress the appropriate key was computed for each language. He accounted for individual differences by making the speed of response relative to the individual's speed of response in his faster language. Balanced bilinguals had equal reaction time in both languages. He also devised a Word Association Test in which subjects were given a stimulus word of high frequency and asked to respond in the same language with as many words as they could think of suggested by the stimulus word. 45 seconds were allowed for response time for each stimulus word. He found that the dominant language gave a + score, that is, a greater number of responses.

Lambert, Havelka and Gardner (1959) used three measures to determine language dominance. Twenty words in French and English of equal length and frequency, but different content, were presented tachistoscopically to English-French bilingual university students. The time of presentation was lengthened until the subject could report the word correctly. This procedure gave a measure of the threshold

of recognition, and it was found that the degree of bilingualism affected these perceptual processes. The second test was word completion. Subjects were given two-letter sequences which are common beginnings for words in both languages, and given 60 seconds to complete as many as possible in both languages. There was a positive correlation between degree of bilingualism and comparative word completion ability. The third device tested facility in word detection. The subjects were given a series of letters (such as DANSONODEN) and had to find as many English and French words in it as possible. Here, too, the comparative facility of word detection correlated positively with degree of bilingualism. In a test of reading facility, the same correlation was noted. In the reading selection there were a number of words spelled the same in both languages but pronounced differently. The language in which the bilingual was dominant predisposed him to pronounce ambiguous words in that language. The only measure used in this study which did not correlate positively with degree of bilingualism was a test of translation.

Lerea and Kohut (1961) studied a group of monolinguals and bilinguals on verbal task performance. The subjects were carefully matched in age, intelligence, sex, and socio-economic status. The Micro Utterance-Association (acquisition) was followed by the Rogers' Test of Personality

Adjustment and then the Micro Utterance-Association (re-learning). The results showed that the bilinguals learned and relearned the MU-A task more rapidly than the monolinguals; there was a significant correlation between the speed of learning MU-A and intelligence among the monolinguals; neither group showed any relation between MU-A performance and social maladjustments as revealed by the Rogers test. The authors felt that the bilinguals had a special ability that has not been realized previously.

Ervin-Tripp (1961) tested Italian bilinguals for recall of pictures. English and Italian were used during learning and recall. The subjects recalled the pictures in their more fluent language, even when they had learned them in the other language. Best recall was when learning was in dominant language as well as recall, and worst recall was when learning was in dominant language and recall in the other language. The author concluded that when the overt language is restricted, there are covert responses in dominant language, and that spontaneous translation is more likely into the dominant language.

The Peal and Lambert (1962) study previously discussed used three tests to determine degree of bilinualism, as well as a questionnaire about family language use and father's occupation, and a subjective self-rating scale. The Word Association Test (modified for group use) presented

words from French and English lists alternately, and children were given 60 seconds to write down as many words as possible suggested by each stimulus word. A formula was used to compute balance or dominance of one language. The Word Detection Test was a modification of the one described above under Lambert, Havelka and Gardner (1959). The children were given four series of letters and had 1 1/2 minutes to work on each. About the same number of French and English word were embedded in each sequence, and a score was obtained indicating balance between the two languages or dominance of one. The third test used was the Peabody Picture Vocabulary Test, based on Dunn (1959). It measured oral skills in the two languages by presenting a series of plates each containing four pictures of objects or actions, and numbered 1-4. The examiner said an English word, and children had to write down the number of the picture it referred to. The whole series comprised twenty-one plates of increasing difficulty, and scores based on a maximum of 21 were obtained. The Subjective Self-Rating Score was obtained by having children rate their own ability to speak, read, write and understand their second language (English). On the basis of these tests, the children were divided into three groups: monolingual, bilingual and mixed. The third group was not used further in the study.

Vildomec (1963) conducted an unusual and interesting

inquiry into multilingualism in Europe. Much of his information was obtained from rather detailed questionnaires sent out to 61 multilingual persons in various European countries. In addition he analyzed the written texts of multilinguals at different stages of mastery of various languages, and utilized as well his own extensive observations. All of the respondents were adults, and most of them were well educated, though not necessarily on a high socioeconomic level. He found interference to be rampant, even on the mother tongue of the multilingual. He felt that it is extremely rare for an individual to speak more than three languages without accent at any one time in his life; this does not, of course, preclude the possibility of language shift, in which one language can fade into merely passive knowledge and its place be taken by another language more immediately useful. He found that usually each language is employed in a specific sphere of activity, and therefore it is rare that anyone can speak two or more languages equally well in any given situation or context.

Mackey (1965) has proposed a technique for analyzing and measuring bilingual interference which takes into account a wealth of relevant factors. He feels that it is necessary to distinguish the type and context of language behavior before submitting it to analysis for interference, as an individual's language can vary greatly depending upon

his environment. In this study he gathered samples of language behavior in the subjects' most common environments and frequent contacts. Each sample was then allocated to the language most used in it, and analyzed according to degree and type of interference at levels ranging from the phoneme to the sentence. Both token and type counts were made for each level in the main language, the secondary language, and bilingual combination of languages. Types of interference were classified as referential modification (influence of idioms, forms of address, world view of other language) and structural modification (influence of word order, number, rank, class, etc. of other language). The other measure applied to each sample was percentage of alternation, that is, the number of times at each level that the speaker switched from one language to the other. The author feels that this type of painstaking analysis will provide the closest approximation to a correct picture of language behavior in bilingual communities.

Nott and Lambert (1968) investigated the processes used by bilinguals to retrieve information in their dominant and secondary languages. The subjects were instructed in French and English to read aloud each word presented on cards by the examiner. They then had 2 minutes in which to recall as many of the words as possible. The lists were in English, French or bilingual; some listed words by

categories and others listed them in random order. The balanced bilinguals remembered more from both English and French lists than those dominant in either language. Category lists were recalled better than non-category ones, especially the unilingual lists. Balanced bilinguals made more translation errors than those dominant in either language, probably because they were confused about which language the word had been initially presented in. The authors concluded that recall of non-category lists is not as sensitive an index of bilingualism as recall of category ones. They attribute this to the assumption that decoding meaning is slower in weaker language, but that when meaning is not helpful to recall (as in non-category lists), the bilingual is not at such a disadvantage in his weaker language.

Cooper and Greenfield (1969) used word frequency estimation of their subjects as a measure of degree of bilingualism. The subjects, who were members of a Puerto Rican neighborhood in Jersey City, were asked to estimate how often they heard or spoke 75 common words in Spanish, and an equivalent set in English. They rated each word on a 7-point scale ranging from "more than once a day" to "never." The words chosen represented five different domains of social interaction. The results were scored by computing the mean difference between word frequency

estimates in Spanish and English for each domain. These scores were then compared to other measures (self-rating scales, fluency tests, English Repertoire Range), and the results indicated that the scores for the Word Frequency Estimation difference correlated significantly with the other criterion variables, and were therefore valid indices of degree of bilingualism. The authors felt that this measure might be particularly valuable in instances where questionnaires elicit inexact responses and where different attitudes towards time make timed tests impracticable. This measure also reflects differences in knowledge of two languages which are related to particular behavioral domains.

Cervenka (1969) designed a test of the "immature linguistic capacity" of young children in Grades 1 to 4 knowing both Spanish and English. In order to set up norms on the English section, he administered it to native speakers of English, assuming that their scores would represent perfect scores for each age tested. The subsections of the test measured children's understanding of word meaning, phonological differentiation, grammatical structures, and semantics. The most consistently valid sections of the test, in terms of correlation with school achievement, IQ's and socioeconomic ratings, were the phonological ones. The grammatical subtests were found to be valid on some but not all age levels, mainly because it was difficult to determine

what was being measured in these sections. Each English subtest has an equivalent Spanish version, and both versions are to be used in determining linguistic capacity in bilingual children, language dominance, and relative mastery of the two languages involved.

Bordie (1970) reviews the different types of language ability tests used with linguistically different learners at the present time, and agrees with the findings of recent research that IQ scores are not really valid for children on a low socio-economic level, which in this country includes nearly all of the bilingual population.

c. Studies Concerning the Relationship Between Bilingualism and Behavioral Usage and Attitude

Ervin-Tripp (1964) administered the Thematic Apperception Test (TAT) to a group of bilingual French adults living in Washington, D. C. Each subject was shown an ambiguous picture and asked to describe what was happening in it. On one occasion the subject used English and on another French to tell about the same pictures. A significant difference in content and attitude was evident in the stories told by the same individuals, depending on whether they were speaking French or English. The author feels that her findings indicate that bilinguals have two personalities where verbal behavior is concerned, and that language may be a medium for internal storage of behavior

information so that a bilingual has two sets of stored alternative behavior patterns.

Anisfeld and Lambert (1964) conducted a study of ten year old French Canadian children in which they had to rate the personalities of French and English children's voices on tape. The monolinguals gave more favorable ratings to the French voices, but the bilinguals saw few differences in personality traits of the two groups. A similar study of adults found a different attitude revealed. All of the adult French Canadians saw English speakers in a significantly more favorable light than French ones. The authors felt that this was due to the prevailing climate of prejudice against the French Canadian in Montreal which is far more apparent to adults than to children. Hence, the adults have accepted a stereotyped view of themselves, whereas the bilingual children have had the advantage of an enriched social atmosphere which has made them less prone to adopt stereotyped attitudes.

Mackey (1966) proposes a method of measuring bilingual behavior which gives a clear picture of the exact situations in which a bilingual uses either or both of his languages. A sample of language behavior is first classified according to environment: person(s) to whom it is addressed, place of occurrence, register (type of language used to a friend, a parent, a boss, etc.), style (purpose -

scolding, narrating, commanding, etc.), and context (content of the conversation). The text having been broken down into these components can then be analyzed on different levels, from the phoneme to the sentence, according to the elements present from each language, modifications caused by influence of one language on the other, and rate of alternation between the two.

Lambert, Gardner, Olton and Tunstall (1968) conducted studies in Montreal, Louisiana, Maine and Connecticut to investigate the influence of attitude and motivation on acquisition of a second language. They found two dimensions to the factors affecting progress in the second language. Aptitude and intelligence (which are successfully predicted by the Modern Language Aptitude Test and the Otis Test of Mental Ability) determine achievement in reading, vocabulary, grammar and classroom oral-aural skills. Attitude and motivation, however, were the important factors in use of the language in communicative situations outside the classroom. The desire to participate in the second language cultural group was termed "integrative motivation" and was felt to be an essential prerequisite for successful second language learning.

Cooper (1969) developed two measures for degree of bilingualism in different social situations, which were divided into the domains of family, neighborhood, religion,

education, and work. His subjects were adult Puerto Ricans living in a bilingual neighborhood in Jersey City, N. J. In the Word Naming Test, each subject was asked to name as many different words referring to a specified domain as possible in one minute. The test was given in both Spanish and English. The Word Association Test was similar in form, but subjects had to give continuous associations related to each domain rather than simple naming of items found in the domain. The time limit was the same as for the first test. The taped responses were orthographically transcribed and the number of responses for each language and domain counted. English domain scores were subtracted from Spanish domain scores;a +difference indicated greater fluency in Spanish and a - difference greater fluency in English for the domain in question. The results showed that the Word Naming scores correlated significantly with other criteria such as years in the United States, occupation, English Repertoire Range, English Listening Comprehension, Bilingual Listening Comprehension, and accentedness. The Word Association scores, however, did not correlate with the other criteria, so the author concluded that the Word Naming Test was a better measure for distinguishing patterns and levels of performance of demographic subgroups.

Edelman (1969) adapted Cooper's measures for use with children ages 6-12 in the same Puerto Rican neighborhood.

The domains were kitchen, school, church and neighborhood. Children were given 45 seconds to name items found in each domain, and the test was given in each language. Older children produced more words and some domains called forth more words than others. The domain of religion was the least fluent. When all the domains were combined, it was found that more words were produced in English than in Spanish. When analyzed by domain, it was found that English was favored in neighborhood, religion and education, and that there were no difference between fluency in English and Spanish in the domain of family.

Findling (1969) also used Cooper's measure (Word Association Test) in a study of the need affiliations and future orientation of bilingual Puerto Ricans in a New York ghetto. After recording the associational responses to the stimulus words for each domain and in each language, he computed the degree of need affiliation as the proportion of human responses (i. e., name of a person) to the total number of responses to each stimulus word. The results showed that in extragroup situations such as work and education, and in English, greater needs were felt for affiliation. To discover whether a group of highschool students felt more future-oriented or past-oriented, he devised a series of pairs of sentences to complete. In each pair one sentence referred to the past (It's good to keep

old friends because...") and one to the future (It's good to make new friends because..."). The results showed future orientation scores to be higher in English and in extragroup domains.

Ronch, Cooper and Fishman (1969) gave the Word Naming Test in English and Yiddish to a group of European Jewish adults who had lived in the United States for 40-60 years. An additional measure used in this study was a Yiddish Usage Rating Scale, administered in English. The results showed two clearly defined levels of language behavior. There was bilingual Yiddish-English interaction with others in daily life situations, but all were intensely Yiddish oriented in their cultural activity.

d. Studies Concerning Bilingualism and School Achievement

Lewis and Lewis (1965) compared the written language of bilingual and monolingual children at the sixth grade level. The children were matched on socioeconomic status, which was low, intelligence, and normal school progress. They were classified as monolingual or bilingual according to the Hoffman Bilingual Schedule. The bilingual group was either Spanish-English or Chinese-English. The entire group saw a silent film called Neighbors and were then asked to express their reactions to the film by writing a composition in English. These compositions were analyzed for verbal output (number of words), range of

vocabulary (number of different words), diversity of vocabulary (type-token ratio for first 100 words), spelling errors, grammatical errors, quality of sentence structure (completeness and discreteness of sentences, degree of subordination, variety of sentence structure) and expressiveness (quality of words used, unity and coherence, sensitivity to mood and meaning of film). The results showed that generally bilingualism did not have an adverse effect upon written language performance. However, the Chinese bilinguals, especially the girls, had both fewer spelling mistakes and more grammar mistakes than the rest of the group. The Chinese bilingual girls who had the greatest bilingual background, that is, who knew the most Chinese in comparison to their knowledge of English, made fewer grammatical mistakes than those whose knowledge of Chinese was limited. The authors suggest that as balance between knowledge of two languages is approached it is easier to keep their structures separate. They also feel that the attention required in learning Chinese characters may transfer positively to learning English spelling. They speculate as well on the fact that Chinese does not have grammar as this term is understood in English, and this fact may account for the grammatical mistakes made by the Chinese-English bilinguals. Little is said about the group of Spanish-English bilinguals except for the fact that their bilingual background had the lowest correlation with the variables

analyzed in the compositions.

Macnamara (1966) studied the effect of forty years of teaching Irish to primary school children whose mother language is generally English. Only a small part of his sample group actually spoke Irish as a first language, and the others learned it only in school, where it was used as a medium of instruction. In addition to intelligence tests, he administered achievement tests in both languages for arithmetic and language. The tests were Schonell's Essential Mechanical Arithmetic Test and Essential Problem Arithmetic Test, which were both translated into Irish, and the Moray House English Test 14 in English, and a new test in Irish based on the Moray House test. He compared the results to norms set up for English children on the English versions of these tests, and found that Irish children scored significantly lower. He felt that these results prove the "balance effect" of bilingualism, that is, that time spent on one language necessarily retards progress in the other language. He felt that the attempt to revive the Irish language has had a retarding effect on primary school children and that their knowledge of Irish is not only deficient but useless except for cultural and political purposes.

e. Discussion

All of the studies reviewed have undoubtedly contributed to the sum of knowledge about the nature of bilingualism.

Some have asked more questions than they have answered, and one has the impression that many have only nibbled at the periphery of the bilingual phenomenon. In spite of the trend towards seeing bilingualism as an advantage rather than a handicap, there has been little light cast on the problem of whether high intelligence especially favors the growth of bilingualism, or whether bilingualism itself fosters the development of intelligent behavior.

Jensen (1962) provides a very complete annotated review of the literature dealing with both the advantages and disadvantages of bilingualism.

The argument over whether bilingualism is an advantage or a disadvantage may be academic and not relevant to the real situation. Almost all bilinguals and multilinguals, it seems, have acquired their extra languages through necessity, not choice. Only in rare instances, (and that usually when the father is a linguist) have children deliberately been taught two languages for linguistic rather than practical reasons.

Although the influence of socioeconomic factors is now realized, it is difficult to describe in any but general terms how they affect the bilingual child's intellectual development and school achievement. In most of the studies the bilingual group was also a minority group and the victim of social and cultural prejudices. In several

studies, tests which had been standardized on native English speaking populations were translated into the other language of the bilingual group and administered with no standardization of norms. It was assumed that the translated version of the test was as valid as the original. Timed tests seem to be a favored way of measuring degree of bilingualism, but if used in cultures where correctness is considered more desirable than speed, their value could be diminished.

Self-rating scales which are frequently used to determine degree of bilingualism appear to be totally subjective, as there is no check on the accuracy of the subject's information about himself. Many tests for language dominance are variations on word naming or association, which indicates extent of vocabulary but not the structural mastery of the language. The behavioral measures suggested by Mackey and Cooper seem to be the most promising for analysis of verbal behavior related to context of situation.

2. Language Acquisition

The relevance of first language acquisition to the learning of subsequent languages, is in the assumption that the second language is learned in much the same way as the first. That is, the characteristics of a given language which seem to be most difficult to learn for native speakers will also be among the last learned by the non-native speaker. This may well be true in broad outline, but obviously other factors such as the age of the student may modify the learning progression. It is nevertheless true that for the teacher of English as a second language, a knowledge of the hierarchy of difficulties which seem inherent in English, can be extremely helpful.

Leopold (in Bar-Adon, 1971) describes the child's acquisition of his mother language and proposes that all children may, in fact, learn the same sequence of sound categories, though the rate and order of acquisition of individual phonemes may vary. That is, the broad outlines of the sound system are distinguished first, then the child gradually learns finer differentiations. Thus, a baby's cooing, which is vocalic, first distinguishes low from high vowels, before acquiring middle vowels and later subdivisions of these three categories. In the babbling stage the baby produces consonant (stops first) + vowel. Somewhere between nine and twelve moths, the speaking

stage begins, that is, sounds are used with meaning attached, though of course babbling without meaning also continues. An interesting feature for learners of English is that the mid central vowel [ə] seems to be difficult to learn, and is not mastered until the end of the second year. In producing consonants, the distinction between labial and non-labial one is made first, and the voiced/voiceless contrast is not learned until late, again at the end of the second year. The order for learning consonants is: stops, nasals, fricatives, affricates (towards end of second year), and latest are liquids, which are often not mastered until school age. In grammar, Leopold finds that children learn syntax before morphology. They begin with one-word sentences from age nine months to twenty months, then progress to Verb + Object (as the child assumes that the subject is understood), at about one year nine months. By the age of two, children can produce three and four word sentences, and the complete sentence pattern of NP:subj + VP + NP:object is learned at nearly age three. In all of these early attempts, children preserve standard word order. In the realm of morphology, however, hardly any appears during the first two years, as endings and stem modifications are not learned until sometime during the third year. Sentences

using an AUX begin to appear at the end of the second year. It is very much later that the first passive sentences appear.

Deese (1970) has reviewed and commented on recent studies in child language acquisition. He describes how language develops in infancy and early childhood, then presents a detailed analysis of early grammatical development. An interesting comment on phonology is that although infant babbling if prolonged will acquire the stress and pitch patterns of adult speech, the acquisition of phonemes is such a difficult process that children are still trying to master it as late as age ten or eleven. His explanation for the short two and three word sentences produced by children in their second year is that the child's memory span is so short at this age that he is literally compelled to reorganize adult speech into manageable pieces. At the end of the section on language in infancy, he gives the neurological evidence supporting the generally accepted belief that primary language development comes to an end at adolescence.

In the section dealing with grammatical development, Deese states that the grammatical categories of children are not the same as those of adults, but that they do possess the potential for maturing into adult categories. He feels that the development of more

complicated sentences is a necessity, because the initial two and three word sentences depend for comprehension on the context of situation and a parent attuned to the child's habits and personality. But in addition to being a necessity, he feels that a child's syntactic structures grow and develop in response to a maturing linguistic competence which needs to be released. A point extremely relevant to the teaching of English as a second language is that while children imitate what they hear, they do not imitate accurately; imitation is merely one of many ways in which a child tries to build up linguistic rules for the language he is learning. He finds that all the evidence points to a linguistic ability which is species specific and does not find any reason to accept the Skinnerian theory of language acquisition as a process of stimulus and reinforcement, which in any case is not exclusive to language but present in general behavior.

In 1960, Berko Gleason (in Bar-Adon, 1971) conducted an extremely significant study in which she tested the knowledge and use of morphology by children ages four to seven. By supplying nonsense words and eliciting the morphemes to indicate plurality, possession and third person singular, and past tense, she was able to show at what age children had internalized the rules for formation of these inflections. She found that the difference in

performance of the pre-school and first grade was not qualitatively different, that is, that the older children were merely perfecting their knowledge of plurals, possessives, and progressive tense. But all the children already knew the basic rules.

Although it has been frequently stated that English-speaking children have mastered the syntactic structures of their language by the time they go to school at age six, a recent study by Carol Chomsky (1969) indicates that this is not completely so. She selected four structures which because of their complexity were considered candidates for late acquisition. They were: 1. John is easy to see. 2. John promised Bill to go. 3. John asked Bill what to do. 4. He knew that John was going to win the race. Forty children aged from five to ten were tested for understanding of these structures, and it was found that structures 1 and 2 were acquired between the ages of 5.6 and 9, and all children over 9 knew them. Structure 3 was still not mastered by some children even as late as age 10, whereas Structure 4 was understood by nearly all children at about age 5.6. These conclusions could be significant for the teacher of English as a second language to elementary age children. It might be that what is imperfectly understood by a native speaker even as late as age ten, is not a structure that can be easily acquired by a child learning English

as a foreign language, unless a parallel structure happens to exist in his first language.

Loban (1963 and 1966) produced a study in two sections dealing with the language of elementary age children. A group of 338 kindergarten children had samples of their language, speech, writing and reading, recorded once a year for a period of eleven years. The first section deals with the first seven years of language development, that is, at the elementary school level. The second section deals with the oral problems encountered in samples collected from the same group over a period of ten years. Language abilities measured in the first section were fluency, structural patterns, conventional usage and grammar, use of conditional statements, figurative language, reading and writing, and coherence through use of various elements such as subordination and control of mazes ("a tangle of language which did not make semantic sense.." p. 5, 1963.)

His conclusions for this part of the study were that fluency, or number of words used, increased with each year of schooling, while the number of mazes decreased, except for the low group; the high group employed the linking verb pattern more than the low group did, the complement pattern was used mostly by the high group but was not very frequent; the high group used clauses far more than

did the low group; the most frequent grammatical problem was with verbs, particularly lack of agreement between subject and predicate, especially in the third person singular; Negro subjects of southern background had trouble with the be paradigm; the high group used conditional statements most frequently; the high group for language was also high for reading; writing ability, on the other hand, was related to socioeconomic status; the most frequently used type of subordination for the whole group was adverb and noun clauses; the high group used subordination throughout the study more than did the low or random groups, although all groups increased their use of subordination as they increased in chronological age; complexity of grammatical structure was associated with chronological age, proficiency in language and socioeconomic status; both groups had trouble with mazes for the first three grades, then showed some control over words per maze beginning in fourth grade; competence in spoken language appeared to be a prerequisite for competence in writing and reading.

In the section dealing with problems in oral language, Loban set up a list of categories for classifying these problems. The general categories are verb problems, pronoun problems, syntactic confusion, and other problems, with subdivisions under each of these headings. Different findings were reported for children speaking standard

English and for those speaking a social class dialect. Problems affecting the standard English speakers were related to clarity more than to problems of usage. They included inconsistency in use of tense, omission of words (not AUX), confusing placement of words or phrases, confusing use of pronouns, difficulties with agreement in indefinite pattern sentences. These difficulties all involve coherence, and the author suggests that these children need instruction to increase their verbal effectiveness, rather than drill on usage. A more complicated picture emerges from the problems of children speaking a social class dialect, which in this study were Negro children. The most frequent problem was lack of agreement of subject and copula, omission of words (except AUX), nonstandard use of pronouns, nonstandard use of noun forms, double negative, omission of copula. Although most of these problems showed some improvement as the child progressed through school, the exception was in use of the copula be. Most of the problems are due to usage and drill on usage is perhaps indicated. He notes that they have not acquired all the phonemes of standard English.

Many of the insights gained in these studies of first language acquisition are pertinent to second language acquisition as well. Probably the single most important is that even native speakers of English are still learning

some grammatical structures and even perhaps still perfecting some phonemes as late as age ten. The English as a Second Language teacher would therefore do well to concentrate on the simpler grammatical patterns of English for elementary children, and leave the more complex ones to be mastered at a later age.

3. Case Studies of Bilingualism

There have not been many studies made of bilingual language acquistion, and of these, the most complete is that of Leopold (1939, 1947, and 1949). He cites (in Bar-Adon, 1971) three earlier studies which were made by Ronjat in 1913 of a child bilingual in French and German, by Pavlovitch in 1920 of a child bilingual in Serbian and French, and by Geissler in 1938 of German children living in Belgrade who became bilingual.

Leopold kept a linguistic diary of his daughter from eight weeks to nearly eight years of age. After that he continued to note striking features of her language as well as that of her sister. The child was bilingual from earliest infancy, as her father spoke to her in German and her mother in English. The predominance of one language over the other shifted depending on the country in which the family lived; English in the end was stronger than German. Leopold felt that the fact that the two languages are related helped her to acquire both fairly easily. He concludes that early bilingualism, far from being any kind of disadvantage, trains a child to think rather than mechanically repeating words only half understood; since everything is referred to in two ways, the child must concentrate on essentials, on content rather than form.

Dimitrijević (1965) made a case study of his son from the age of seven months to seven years. The boy spoke Serbian with his mother and others in his daily environment, and only English with his father. The child was not aware that he was speaking two languages until the age of four, and then only partially. Although there seemed to be transfer between the two languages, there was no adverse effect on the L^m (mother language). Serbian became predominant only at the time that he began to play with other children.

Another case study of a young child exposed to two languages is that of Dato (1969), which was planned as part of a larger study dealing with a group of children. The author's son was four when the family went to live in Spain, and a series of tapes were made during his first year there to chart his acquistion of Spanish. The author is convinced that second language learning would be more effective if a natural environment could be re-created so that children could acquire their second language in the same way that they acquired their first.

The only case study of bilingualism encountered that dealt with an older child was that of Rouchdy (1970). The subject was a twelve year old boy who spoke Arabic as his first language and had acquired English

during his four year stay in the United States. An unusual feature of this study was its examination of the interference found in his mother language which could be traced to English, his second language. A series of objective and subjective tests were administered, and samples of the subject's oral performance in both languages were taped. It was found that in all objective tests except the multiplication one, the subject's score in English performance was higher than in Arabic. The author felt that these tests measured quantity of language rather than quality, and to test the boy's true competence in Arabic, two other tests were given. The first had a series of paired sentences in Arabic; one of each pair was a deviant structure. The subject was able to identify almost all the correct structures. In the second test, he had to repeat certain sentences in Arabic after a time lapse of five seconds. Some of the sentences were grammatical, others were ungrammatical, and some were merely awkward and foreign sounding. He repeated three fourths of the grammatical ones correctly, rearranged all ungrammatical ones so that they were correct, and of the ten awkward ones, corrected seven and anglicized three. The author felt that these results proved conclusively that the boy's Arabic competence was greater than his speech performance indicated. Thus interference was present mainly in the realm of performance.

The most striking common feature of these individual case studies is that all of the children concerned seemed able to acquire a second language without much difficulty or special instruction. Two of them started in infancy, so that both languages were acquired together and without initial differentiation. The other two acquired their second languages at the ages of four and eight, through contact with an environment in which the new language was predominant. It appears that there is an upper limit to the age at which this natural acquisition can be completely successful. Most linguists place it at around the onset of adolescence. In the case of Jean-Marc, perhaps even the age of ten is a little late for acquiring native-like control of English in just nine months, as did Mrs. Rouchdy's son at the age of eight. Perhaps the linguistic ability for language acquisition tapers off gradually in the years preceding adolescence.

CHAPTER III

GRAMMATICAL ANALYSIS

1. Errors in Morphology and Syntax

a. Verb Forms

A total of 491 errors in the 22 tapes involved the use of incorrect verb forms. They were classified as follows:

		Tapes 1-11	Tapes 12-22	Total Errors
1)	Present for Past	164	118	282
	Present for -ING	16	10	26
	Present for Past Participle	12	7	19
2)	Past for Present	12	18	30
	Past for Past Participle	2	0	2
	Past for -ING	0	1	1
	Past for Non-Finite	1	0	1
3)	-ING for Present	2	2	4
	-ING for Past	13	0	13
	-ING for Non-Finite	2	0	2
4)	Non-Finite for Present	1	0	1
	Non-Finite for Past Participle	0	1	0
	Non-Finite for -ING	1	3	4
5)	Noun for Verb	1	1	2
6)	Person	41	62	103
	TOTALS	268	223	491

1) Present

The preponderance of errors due to use of present for past is probably an indication of insufficient mastery of the past forms of many verbs. The percentage of errors in this category fluctuates considerably from tape to tape, ranging as high as 24% in Tapes 9 and 14, and showing considerable improvement from Tapes 17 through 22, which have an average error percentage of only 3.7%.

Examples of use of present for -ING:

3:37 I eat toast and sardine. (Response to, "What are you eating?")

3:105 Where are we go Sunday?

4:15 Lunch card is for pay for the lunch.

5:80 ...today are we have football?

8:132 I am enjoy.

11:6 I was thinking if he come for me or I am going for him.

11:31 My ears is not hurt anymore.

15:135 He can't hear because he talks every time with Judy.

16:99 [A caravan] is a people travel together.

19:10 May I go to swim?

20:76 ...you have to stand up and they pick the body who is stand up.

22:48 ...Omar is bother us all the time...

(None in Tapes 2, 7, 9, 10, 12-14, 17, 18, 21)

The major problem here seems to be due to interference from both French and Spanish, which habitually use the present in circumstances which in English call for the progressive present (AUX(present) + -ING). In most cases he does use the AUX but has not yet mastered the -ING suffix for the verb. 4:15 also shows interference from both other languages, which require the non-finite verb form after <u>for</u> in this type of construction (<u>pour payer</u>/<u>para pagar</u>). It is impossible to be certain whether <u>pay</u> is present or non-finite. 11:6 is interesting in that Jean-Marc used the -ING form correctly twice, but missed both the AUX and the -ING on the third item, <u>if he is coming</u>. However, there are other possibilities depending on intended meaning, as: <u>if he should come for me</u>, <u>if he will come</u>, etc. According to the context of the conversation, 15:135 should be, <u>He can't hear</u> (the teacher) <u>because he's always talking with Judy</u>. 19:10 is grammatically correct, but the usual expression is <u>May I go swimming</u>.

He seems to be well on his way to mastering -ING usage in spite of double interference from his other two languages, probably because of its frequency in the spoken English he is encountering daily.

Present for past participle seems, like use of present for past, to be due mainly to insufficient mastery of verb forms. Nearly half (9) of these errors were contained

in the fairly frequent sentence:

I finish/am finish for I finished/am finished

In this case, there may be interference from French, where the present and the present perfect (passé composé) are phonologically very similar:

Je finis/J'ai fini [žə fini/že fini]

This error did not occur in Tapes 16-19 or 21 and 22.

2) Past

Use of past for present occurs mainly in Tapes 10, 13 and 15. It is infrequent in the other tapes, and does not occur at all in Tapes 16-18 and 21-22. This error is probably due to lack of mastery of different verb forms. It may be that in the middle tapes he was more aware of past verb forms and in attempting to use them correctly, over-used them in the wrong context. If so, this is an example of what Vildomec (1963) terms "hypercorrectness."

Use of past for past participle occurred only on Tape 6, in which he twice said gave for given. Although mastery of irregular past participle forms does not therefore seem to be much of a problem, it should be remembered that by the nature of dinner table conversation it is not needed very frequently, except in the continually reappearing I am/have finished, where the past participle is identical in form to the past.

The items in which the past was used for the non-finite

verb and for the -ING form were these:

11:205 ...to read music and to said how many quarters

13:85 Because I was blew my nose in school.

The use of said for say is perhaps due to the habit formed by his frequent use of said in recounting conversations - "So he said..," "And Mrs. Cashion said...," etc. Said is the form of the verb which he uses almost exclusively. The use of blew for blowing could be due to non-mastery of the formation of the imperfect (AUX(past) + -ING), or it could be due to concentration on remembering the irregular formation of the past of blow.

Two non-standard forms were noted in the past form of an irregular verb:

6:24 But I seed [it] this morning.

7:157 I telled to Clay.

This application of the regular past suffix merely indicates unfamiliarity with the irregular form; more importantly, it indicates that he has internalized the rule for the formation of the English past and is applying it in a productive manner. Since these forms are typical of Central Texas, they have not been counted as errors.

3) -ING

Use of -ING for the present occurs in Tapes 1, 2, 13, 15, 18, 20 and 22. Examples:

1:125 Brushing my teeth. (Response to "What must you do before you go to bed?")

2:21 She no looking.

2:81 Please eating salad.

13:185 When Mrs. Cashion is tired, she is sitting in her chair...

15:177 The next day [means time] we are going to Sears...

18:24 [A] glacier is a water falling down and gets freezing.

20:119 ...but when you play outside or doing something bad...

22:96 I would keep it so when we are going to Africa...

The first example follows neither the French nor the Spanish pattern, and therefore seems to indicate unfamiliarity with the correct use or meaning of the -ING form. 2:21 should be, "She didn't look at it," as the appropriate response to the father's question. Here again, the -ING form does not correspond to usage in either of the other languages, but it is possible that he was attempting an imperfect and forgot the AUX. 2:81 uses the -ING in an imperative construction; here again it is likely caused by lack of understanding of this form. 13:185, 15:177 and 22:96 are the only examples of this kind of error, and seem to be due to overlearning

of progressive present usage in English and extension of this common pattern even to situations where it is not appropriate. 18:24 has two correct alternatives, freezes or gets frozen. It is possible that in a construction like 20:119 a subject and copula omission in the second clause is the cause of the error.

Use of -ING for the past occurs only in Tapes 2-6:

2:65 [We] ... looking television...

3:84 Today I going to gym play football.

3:162 I looking the boys use the machine...

3:185 Today I coming to school first.

3:187 Eight I coming to school.

3:188 I coming. 3:189 You know what time I coming?

3:190 I coming school eight o'clock.

4:28 In the school I working the spelling.

5:6 I walking. (Response to, "You did what?")

5:33 We looking the island Hawaii.

5:91 I working too my geography.

6:6 And I washing my teeth, I do my math, the kitchen...

With the possible exception of 4:28, all of these utterances should have used the past verb form in the context in which they were said. Neither French nor Spanish would employ the imperfect in these situations, except in 4:28

which might be: A l'école je travaillais, but, En la escuela estaba trabajando. Since all the other examples call for the past, it is suspected that at this early stage of his English acquisition Jean-Marc is confusing the -ING form with the past.

Use of -ING for the non-finite verb form occurs in Tapes 4 and 6 only:

4:26 Who's got to talking?

6:74 For the teachers talking. (Response, "What are they going to sit in a circle for?")

In the first example all three languages call for the non-finite verb form, so this error cannot be attributed to interference. The second example is more complicated, as French and Spanish require that the verb be in the subjunctive: afin que les maîtresses parlent/para que las maestras hablen. It is possible that in this case Jean-Marc was equating -ING with the subjunctive because he had not yet learned that the English equivalent requires to + Non-Finite.

4) Non-Finite

The non-finite verb form was used incorrectly in the following examples:

10:33 "Thank you to give me a nice paper like this."

10:65 [Camels] to pass and the nomads.

13:117 [It] is not to give to him to play with...

18:71 Mamita, I already finished to read All About Monkeys.

19:10 May I go to swim?

10:33 is clearly due to interference from French and Spanish, merci pour me donner/gracias por darme, which use the non-finite in this type of construction where English uses the -ING form. 10:65 is so fragmented that it is difficult to tell what meaning was intended, but in the context it seems to be, "Camels and nomads pass." (He is talking about desert life.) The extraneous to would therefore be an error due to non-mastery. 13:117 uses the non-finite instead of the past participle probably because the irregular past participle given has not been completely mastered yet. In 18:71 and 19:10, both French and Spanish interference is seen in the use of the non-finite for the -ING form.

5) Noun for Verb

On two occasions a noun was used where a verb was called for:

8:133 Surprise I am enjoy. (for I am surprised.)

13:100 So Mrs. Cashion take everybody out to racer... (for ...to race.)

While he had frequently heard expressions such as,"Surprise!" and "I have a surprise for you," it is unlikely that he had

been exposed very often to the passive construction to be surprised. He probably just used the familiar form. 13:100 is open to two interpretations. It could be that he simply wished to say out to recess, in which case the error was phonological. However, the context of the situation indicates that the verb race was intended.

6) Person

Errors in morphology due to use of the wrong person occurred in all tapes except 1, 2 and 5. This error showed an increase in Tapes 10-15, and thereafter showed some improvement, except in Tapes 18 and 20. The types of error involving person were classified twice, once according to the kind of subject (or sentence) with which they appear, and once according to whether the error was contained in a verb, AUX or copula.

45 errors were made when pronouns were used as subject; of these, 12 occurred in Tapes 10, 11, 20, and 22, in conjunction with the words somebody, everybody, and nobody. It seems probable that he has not yet learned that these words take a singular verb - even everybody. In this last case there may be some interference from French and Spanish, each of which have two expressions covering this meaning: todo el mundo + sing/tout le monde + sing BUT todos + plural/tous + plural.

30 errors were with nouns as subjects and seem to be

due to the fact that only one verb form has been learned so far, and was used indiscriminately, just as the same form was used frequently in place of the past in the same tapes. According to Richards (1971), this use of the verb stem for the verb stem + s is a typical error amongst students of English as a second language.

The 6 errors due to use of a singular subject rather than a plural one are included under b-1 - Errors in Number (Noun Forms).

Six items seem to be due to lack of mastery of the negative pattern using the empty carrier do:

6:77 She don't tells.

7:20 Steve too don't know nothing.

14:146 [It] don't said C. E. U.

15:129 ...so Tim don't listen.

15:134 ...he don't hear, he don't...

The first example indicates that he has not yet learned the do + V pattern; in the second example he uses the correct verb form but makes his mistake in the AUX do. In Tape 10, four of his errors are also the use of do for does. The learning of the use of do as AUX in English is probably impeded by the fact that the corresponding French and Spanish patterns have no correspondence whatsoever with the English one.

The five WH-Question errors were:

10:11 ...how many is four times two?

14:185 What is called? (Referring to the Egyptians)

15:129 Who want to be team captain?

16:67 Where were that man dead?

18:98 You know what come second?

10:11 seems to be due to the confusion of how many with how much, both of which are rendered in French by combien? but in Spanish by cuántos? and cuánto? 14:185 and 16:67 require reflexive constructions in both French and Spanish, but it is doubtful whether this contributed at all to the errors in person. 15:129 seem to be due to non-mastery of the singularity of who; but since what can refer to either a singular or plural concept in English, 18:98 may reflect some minor confusion. The following utterance is, First come orange, second comes olive and then come blue; at least one verb in this whole sequence has the correct morpheme for person.

Seven errors involving person are found in relative clauses:

10:66 ...the man who work...

12:75 You know what happen.

14:14 Then Mrs. Cashion ask to Judy, the girl who sit front of my.

14:53 ...John Murphy is a boy [who] go to same class.

20:96 ...like I am the first who say the number.

20.97 ...and the [person] who make Bingo supposed to call the number.

21:101 You know, those boy and girl who (don't) is not real but toy.

These seem to be due to lack of mastery of verb forms beyond the base form, and also perhaps to difficulties in the formation of subordinate constructions.

The other errors in person each occurred once:

11:97 My father or my mother are going to take you.

11:203 We have to knows all the notes.

19:244 ...because on the other side there are a magic pilot.

20:119 For big people playing outside waste a lot of time.

In 11:97 the excluding nature of or does not seem to be understood. In 11:203 the error may in fact be imitation of Southern or Central Texas dialect. In 19:244 the main difficulty may be in his non-mastery of the indefinite pattern, which caused many errors throughout the tapes. The nominalized verb phrase as subject in 20:119 is quite a sophisticated structure for a learner of English, and it is not surprising that this structure contains an error in person.

Although most errors were contained in verbs, there were also 20 errors in the form of the copula, due no doubt to difficulty in mastering the be paradigm. The AUX errors involving do are discussed above.

The other AUX errors were:

15:12 Why the Red River have become a--

15:15 I said the Red Sea have become an important water bay because the Suez Canal.

These are the only instances of use of have for has.

b. Noun Forms

Errors in noun forms were classified as follows:

	Tapes 1-11	Tapes 12-22	Total Errors
Number	37	63	100
Genitive	11	1	12
Verb for Noun	2	5	7
Noun Compound	3	1	4
Mass/Count Nouns	2	0	2
Totals	55	70	125

1) Number

Most incorrect noun forms were due to the use of the singular where the plural was required (88 errors), though occasionally he used the plural for the singular (9 errors). Of the latter, 7 occurred in Tapes 10-13, and

may possibly be due to the fact that as he learned the plural form he over-used it sometimes.

The percentage of this error may well be due to strong interference from French and possibly from Spanish. In French regular plural endings do not change the sound of a word; phonologically, plural in most cases is indicated by the article (le, les; la, les; un, des). Since Jean-Marc's French is almost completely oral and he rarely has read or written French, it is quite likely that he is unaware of number differences in French nouns. An additional cause for interference may come from the dialect of Spanish with which he is most familiar (Santa Cruz, Bolivia), in which the final /s/ becomes a weak aspiration [^{h}]. This speaking and listening habit would also tend to obliterate the difference between singular and plural, as the [^{h}] is so weak and so completely unlike the English plural morpheme.

Other errors were in the formation of the plural:

18:15 workmens for workmen

20:78 people for person

21:99 comics books for comic books

The first two are probably due to non-mastery of irregular plural forms. 21:99 seems to be a result of confusion of two frequent terms, comics and comic books.

2) Genitive

Errors involving the English genitive morpheme were

confined to the first 13 tapes. As might be expected from French and Spanish patterns, the most frequent error is use of the pattern Possessed + of + Possessor rather than the more usual English pattern of Possessor + Genitive Morpheme + Possessed. In the early tapes the genitive morpheme is merely omitted, but the influence of the French and Spanish possessive pattern can be seen in both early and middle tapes.

The other two types of error were found in these examples:

3:22, 3:25 ...the restroom the girls.

10:37 Judy the letter is not nice. (For Judy's letter/handwriting are/is not nice.)

In 3:22 and 3:25 it is difficult to tell whether he means the girls or de girls, as he frequently substituted the Spanish /de/ for the English /ðə/, If the latter, then these two examples should be included under the category Possessed + of + Possessor. In 10:37 the article the is substituted for the genitive morpheme, but the English word order (Possessor + Possessed) is followed. Since errors in the genitive do not occur in Tapes 14-22, it appears that this morpheme and its use have been mastered.

3) Verb for Noun

In seven examples a verb was used for a noun:

2:17 Read. (Should be Reading, as 2:18

continued with English, Spelling and Geography.)

11:153 They was practicing to dancing.

13:35 Spank. (Response to question, "What would have happened to Kelly?" should have been, "A spanking.")

14:7 Because it was to practice. (Referring to a paper that didn't have to be turned in because it was just for practice.)

17:99 [I'm] tired to talk.

17:103 I am tired to talk.

19:103 To swim. (Answer to question, What are you tired of?)

2:17 and 13:35 may be due to unfamiliarity with the noun form, or the association of the -ING form with verbs and its rejection in a nominal construction. 11:153 shows a similar confusion between verb and noun form, as the insertion of to seems to indicate an attempt at a transitive with complement pattern. In none of the three languages can practice take a verb after it; only in English can a gerund be used as the object of this verb. In the last three examples, to + Non-finite are used instead of of + -ING. This is probably due to interference from the French and Spanish patterns which employ the non-finite in this type of construction. In 14:7 the error in preposition

indicates that practice is a verb rather than a noun.

4) Compounds

Six errors in the formation of noun compounds were made:

3:183 Here is the knife of butter.

10:167 I think in school every year they change teacher of music.

11:32 You remember what I am going to say in card of the post office?

12:27 I think because they have to work with the secretary of school.

19:195 Well, they give orders because, you know, some pilots of the airplanes they can't see pretty well.

22:56 "Good evening, here is the report news with Jean-Marc Chamot."

While these constructions are perfectly understandable, they do not follow the more usual English pattern of butter knife, music teacher, school secretary, airplane pilots, etc. Neither French nor Spanish places the nouns involved in a compound construction, so it is obvious that interference from both languages has resulted in a literal translation into English.

5) Mass and Count Nouns

There are three examples of confusion between mass and count nouns:

7:75 May I have this meat?

11:222 Yes, I want big cheese.

17:61 Chopin is a nice music, isn't it?

Since meat, cheese, and music are also mass nouns in the equivalent French and Spanish constructions, it is difficult to attribute these errors to interference. They must be due to non-mastery of the mass noun concept in general.

c. Pronoun Forms

A total of 22 errors were made in pronoun forms, and there were none after Tape 18. Use of incorrect pronouns was confined for the most part to one or two errors of a kind. The exception was in his use of me as a subject pronoun 7 times in the first 8 tapes. The result sounds like baby talk:

3:5 Me kick eraser outside.

3:86 Me put the ball in the goal.

4:8 Today me is the messengers the table.

5:70 Me tell Mr. ---

8:57 Me am not hungry.

There is some possibility of interference here, however, as in his Vaudois French Jean-Marc frequently uses the pattern, "Moi, je suis fatigué," etc.

He used I for me three times, in the following items:

6:108 But you drink wine but you don't want I drink water.

9:26 What do you want I say?

17:62 So do you want I plug my eyes for the dessert?

In all cases the error occurs with the verb want in a transitive with complement pattern in which the to has been omitted. From this evidence, it is suggested that what he really had in mind was a relative clause rather than the complement construction, according to the French and Spanish pattern (...que je boive... / ...que (yo) diga... / ...que yo tape...) With both vouloir and querer the subjunctive is required in French and in Spanish, and naturally the nominative pronoun form precedes them.

The other kinds of pronoun error each occurred only once or twice:

3:195, 15:69 it for she

4:177, 14:37 you for your

5:32 /wiyz/ for we

5:102 omission of myself

8:99 me for mine

10:123 mine for my

12:79 your for my

14:14 my for me

15:35 their for your

18:15 they for their

For the most part these errors are probably due to non-mastery. 5:32 is probably imitation of Central Texas dialect heard at school.

d. Adjective Usage

28 errors were made in Adjective usage and were classified as follows:

N + ADJ	9
more + ADJ + (than)	6
word order, multiple ADJ	4
ADJ suffix	3
N + PREP + (ADJ)	2
ADV for ADJ	2
Other	2

The most frequent mistake (N + ADJ) is attributable to interference from both French and Spanish, which habitually use this word order rather than the usual English ADJ + N.

The second most frequent category is also likely due to interference. The comparative adjective constructions are formed in a similar way in both French and Spanish (plus grand que... / mas grande que...), whereas a large number of English adjectives have a comparative suffix instead. Both French and Spanish, however, do have a small group of adjectives which form their comparative irregularly (meilleur, pire, mejor, peor, etc.) Four of his errors

involved the adjective big and the fifth was large. It is evident that he is having some difficulty in acquiring bigger and larger as part of his vocabulary. This error occurred only once after Tape 12:

18:48 I can get up more early.

These errors may be due to non-mastery, as Berko Gleason (1971) found in her study that native speakers of English had difficulty in supplying comparative and superlative adjective forms in the four to seven year old age group.

In the following examples he indicated the difficulties encountered with word order when more than one adjective was present:

2:35 Sandwich ice cream.

3:44 Ice cream vanilla.

6:89 ...this box big one red one...

10:101 This is white wool sheep. (indicating his sweater)

The first two examples present in their word order the remnants of the French and Spanish pattern, glace à la vanille, sandwiche de helado. 6:89 sidesteps the problem of word order with multiple adjectives by first identifying the noun, then further describing it in apposition. French and Spanish interference probably make him reluctant to put the adjectives big red together, as in these languages red would

follow the noun. 10:101 shows that he now knows that in English several adjectives can precede the noun they modify, but he hasn't yet learned their proper order. Since he is referring to the color of the sheep which produced his sweater, wool is the noun modified, not sheep.

The wrong adjective suffix or lack of one was found in the following:

12:38 ...in print letter.

12:85 He is a blacky cat.

22:58 Mr. Guy Chamot went over there in Alaska about twelve of June.

In the first, it seems likely that he is merely unfamiliar with the form printed, whereas the second, seems, from his tone of voice, seems to be an attempt to play with the language. 22:58 is probably due to interference, as in this construction both French and Spanish use the cardinal rather than the ordinal number.

An adverb was used for an adjective twice:

11:130 We have very, very fun this afternoon.

14:48 And then today I have very fun to school.

These seem to indicate confusion about the meaning of very as opposed to an adjective such as lots of.

N + of + N instead of ADJ + N occurred twice:

12:381 I don't like cheese of (unintelligible)

16:76 Why in Mexico do they do some music of

toro like this?

The first example is marred by poor recording, making it difficult to analyze. In the context, he probably said America or American. In both French and Spanish there is a choice of constructions to express this meaning: Je n'aime pas le fromage d'Amerique / no me gusta el queso americano, which may account for his error in English. In 16:76, besides not knowing the English bullfighting, he is here following both the Spanish and French pattern, which in this construction would use N + of + N.

e. Adverb Usage

36 errors were made in adverb usage, most of them due to word order mistakes;

ADV precedes Dir. Obj.	15
ADV precedes SUBJ.	8
Comparative pattern	2
Omission of ADV	6
Wrong ADV	3
ADJ for ADV	2

Typical examples of ADV preceding direct object are:

4:135	I want tomorrow cake.
7:119	I leave outside Omar.
10:85	He do like this small letters.
12:40	...I bring every time note to you.
14:130	So I know now antonym.

15:10 You remember the last time of geography questions?

16:16 You remember last time I came late inside at 6:30?

19:239 I like better airplane because...(interrupted)

20:106 Because I like better to paint.

4:135, 12:40, 14:130 and 15:10 seem to show interference from French, where most time adverbs can follow directly after a verb; interference from Spanish may also be seen in 12:40, which follows one of the word order patterns commonly used. 7:119 seems to be due to Spanish interference as it follows an acceptable word order pattern in this language; the French word order in this case is the same as the English. 10:85, 19:239 and 20:106 have double interference, as in both French and Spanish the adverb of manner can be placed after the verb, while in English it is more usual to place it after the object. In 16:16 the problem may be due to the choice of verb; <u>came inside</u> would probably be given as <u>entrer</u> and <u>entrar</u> in French and Spanish, in which case the adverb would follow immediately after, and no direct object such as <u>inside</u> would be needed.

The examples in which he placed the adverb before the subject are not in all cases completely un-English constructions. Some merely sound slightly awkward:

2:61 He said for first Bill, me second.

9:22 Outside, what is [that] thing?

15:52 Everytime we have that.

The other two, however, are definitely wrong:

10:108 Like this I have to say [it].

11:99 ...then over he said, "I got to go."

10:108 shows typical French and Spanish word order. 11:99, besides omitting part of the adverb over again, also shows the influence of Spanish and French word order.

Omission of adverb:

11:78 [He could] look a car and go down [in front of] the car.

16:82 Can we stop [until] the dessert time?

19:6 Is the weather [too] hot to put clean clothes tomorrow?

These omissions are probably due to non-mastery, rather than any specific interference.

Difficulties with the adverb comparison pattern were encountered in:

8:68 More of horses. (Means faster than horses.)

8:69 The kangaroo can run fast of car.

The correct pattern was modelled by the parents after 8:68, but he still had difficulty in reproducing it in 8:69. The use of than and as...as, so different from the French and Spanish patterns, has not yet been mastered.

The wrong adverb was used three times:

11:213 This is not very bad...(Means too bad.)

18:92 Everybody are up than me. (Means ahead of me.)

19:235 No, that was in the land. (Means over land.)

These are probably due to non-mastery.

ADJ for ADV occurred twice:

18:25 The glacier is falling down the hill slow, slow, slow, like the turtle.

22:68 My reading classes are going good.

Both of these instances can be attributed to models heard from other children at school.

f. Preposition Usage

As could be expected, correct preposition usage proved to be extremely difficult to master. This is no doubt due to the fact that the semantic areas of prepositions do not correspond entirely with their equivalents in French and Spanish.

A total of 124 preposition errors were made in the first 13 tapes, and in addition to these, 58 necessary prepositions were omitted and 24 prepositions were redundant. Of the prepositions omitted, 8 were with time expressions (eight for at eight).

The greatest single error (56) was due to the indiscriminate use of in:

in for to	20
in for on	18
in for at	13
in for for, from, into, with	5

Examples:

in bed for to bed; in Bogotá for to Bogotá

in your house for to your house

in Monday for on Monday; in TV for on TV

in my bed for on my bed; in my card for on my card

in 7:00 for at 7:00; in Christmas for for Christmas

in the school for at school (9 times)

draw in a big piece of paper for draw on a big piece of paper

in this side for on this side

By associating in with French en, it is difficult to see how he could have made these mistakes. However, by associating it with the Spanish en, he could be translating these: en la TV, en mi cama, en mi tarjeta, en la escuela, en este lado. The ones involving the substitution of in for to are hard to attribute to interference, as both Spanish and French would use a and à respectively. The use of in with Monday is probably due to non-mastery, as both French and Spanish use the definite article rather than a preposition.

19 errors were made by using to in place of other

prepositions:

to for on	5	to for of	4
to for at	7	to for into	1
to for for	2		

Examples:

gave to TV for gave on TV (5 times)

stay to school for stay at school

I have fun to school for I have fun at school

Thank you to give me for Thank you for giving me

In the first example the interference seems to be from French à la TV, rather than from Spanish en la TV. In the next two examples, French influence is again obvious: he is equating to with à. Spanish would use en. The last example shows double interference from French and Spanish in its use of the non-finite verb form; both, however, would use the equivalent of for.

The use of to for of occurred in constructions such as I am tired to swim, which are discussed in b.3, Verb for Noun errors.

35 errors were made involving the following prepositions:

for for to	5	a for in	2
of, for or at for about	6	at..to for in	1
of for for	2	from for in	1
of for around, as, at, between, in, on, over, with	8	than for of	1
		when for for	1
de for of	5		

into for at 1 off for out, away 2

Examples:

...for pass the ball for ...to pass the ball

for speak Spanish for to speak Spanish

For give to you? for To give to you?

I like to dictate spelling for you for ...to you

The first three indicate translation from the French and Spanish prepositions pour/para. In the fourth example, the placement of the object pronoun (te dicter/dictarte) conveys the meaning of to in French and Spanish; the fact that English requires a preposition was remembered, but not which preposition.

De for of was used 5 times in Tapes 3 and 4, and then not again.

Of was equated with pour/para twice:

Surprise of dessert?

Tomorrow is the last day of Daddy.

Of was equated with de/de twice:

All [the] people of the school for ...at school

They have to turn ten times of the moon for ...around..

About seemed to be a difficult preposition to master. Typical errors were:

So now at school for about school

My reading classes are going good and I am happy of them

The problem here is probably due to the fact that neither French nor Spanish has a single preposition that covers the meanings of about. In the first example, the French would probably be sur or au sujet de, in Spanish, sobre. In the second example, the Spanish would be con and spoken French would employ a different kind of construction, such as j'en suis content.

It is not so easy to determine the reason for his use of of in the last two examples:

[She said] "Write a sentence of palm[s]" for ...about..

I had [an] accident of my head for with my head

Neither is a typically English construction in any case.

Other cases of wrong preposition use were:

with for at	2
at for to	1
at for through	1
at for out	1
on for at	1
on for in	5
on for to	3

Examples:

mad with for mad at

Obviously the French avec and Spanish con used in this expression have determined his choice of preposition.

looking at the window for through the window

looking at the door for out the door

So she said, "Go at the fifth base." for ...to the fifth..

The first two examples involve the use of the verb look and it is suggested that rather than interference, his use of at is due to the influence of the frequent item look at. In the third example, he seems to be confusing at with to, easily understandable since both French and Spanish have but a single preposition (à/a) to cover the English equivalent meanings.

On was used incorrectly 9 times:

6:91	I shoot on one box for ...at a box
10:62	The desert has camel[s] on it for ...in it
14:166	...and she went on Canton de Vaud, too.
15:26	We jump on the back [of the] book.
18:95	Now I am on blue.
21:15	No, fraction with a number on top, a number on bottom, a line on the middle.
21:37	...it make hole on the roof?

The first shows interference from Spanish (disparar sobre) and possibly from French (tirer sur or à). 10:62, 21:15 and 21:37 probably show interference from the Spanish en, covering the range of in and on, as the French in these cases would be dans. 14:166 and 15:26 seem to be due to

non-mastery, as neither French nor Spanish would use à/a in these constructions. 18:95 was corrected in 18:97, which was Bobby is in blue, I am in blue.

Redundant prepositions were attributable to interference:

near of the water

ask to

in home for home (twice)

go to home

In all of these, both French and Spanish require the equivalent of the English prepositions used erroneously.

Omitted prepositions, on the other hand, were probably due to non-mastery:

School for at school

10:00 o'clock for at 10:00 o'clock

front of for in front of

back for back of

g. Article Usage

A total of 224 errors in article usage were made, and were classified as follows:

	Tapes 1-11	Tapes 12-22	Total
Omission of a, an, some	37	37	74
Omission of the	33	44	77
Redundant the	15	10	25
the with parts of body, clothes	4	2	6

	Tapes 1-11	Tapes 12-22	Total
[de] for the	7	0	7
one for a	6	1	7
Redundant a, an	3	9	12
a for the	3	3	6
the for a	2	1	3
a for an	1	2	3
the for possessive pronoun	1	0	1
the for with	1	0	1
the for at	1	0	1
some for a	0	1	1
Totals	114	110	224

Omission of the article accounts for the majority of errors.

Examples of omission of a, an, some:

1:130 May I please [have] water?

2:81 Please eating salad.

3:112 This is surprise for me.

4:34 Astronaut is man going to the espace.

5:93 I want piece.

6:86 Fork. (Response to, "What are you serving yourself with?)

8:35 Australian animal. (Response to, "Can you tell us what you painted?")

9:6 Big one. (Response to, "Was it a big one or a little one?)

10:78 ..."That's very good nice paper you give me."

11:12 We have lot of soup, right?

11:47 I don't want bicycle.

12:61 You talk little bit.

13:122 [He] is fifth grader.

14:82 She is nice teacher.

15:59 No, Mrs. Simpson gave us magnet.

16:71 There was a Arab, Egyptian, African.

17:25 Is nice boss.

18:74 Each book cost dollar twenty-nine.

19:186 ...it's a radio control in airport.

20:100 That's fun prize, huh?

21:63 Los Angeles, that was Mexican place, huh?

(None in Tape 22)

1:89, 3:112, 5:93, 6:86, 8:35, 9:6, 10:78, 12:61, 14:82, 15:59, 17:25, 18:74, 19:186, 20:100 and 21:63 do not seem to show the effects of interference; in both French and Spanish, articles are required with the equivalent constructions.

Spanish rather than French interference is seen in 1:130 and 2:81, as the Spanish equivalents do not require the article, whereas the French equivalents do - <u>de l'eau</u>, <u>de la salade</u>.

In 4:34 the omission of the initial <u>an</u> does not

seem to be due to interference, but the redundant the (the espace) is clearly due to influence from both French and Spanish.

10:58 is very likely a case of interference from French and Spanish, which do not require the article before the name of a profession. 13:122 may possibly be an example of the same kind of interference, if fifth grader is understood as a sort of profession or occupation.

11:12 also shows interference from both other languages, because neither beaucoup nor mucha take an article; this is equally true in 13:100, where longtemps and mucho tiempo correspond to a long time.

11:47 shows interference from Spanish, which would not use the article: No quiero bicicleta. 16:71 is probably due to non-mastery, as both French and Spanish require repetition of the article in a serial listing.

Examples of omission of the:

3:84 Today I am going to gym [to] play football.

4:15 Lunch card is for pay for the lunch.

5:27 Library. (Response to, "What was the movie about?")

6:42 Here [are] potato[s].

7:89 And then we bring to United States?

8:32 ...and in University I did eight.

10:18 And I raised my hands to say something to teacher.

12:84 ...and he is black like Cat in the Hat.

13:213 We have to pass base.

14:77 Because I invite him for a show in University.

15:83 ...so I stayed in same place.

16:112 I am going to put them in newspaper.

17:83 Mamita, do we have melons in United States?

18:1 Soup is delicious. (Referring to the soup he is eating.)

19:244 ...you can leave [means <u>let</u>] airplane go by itself.

20:13 I went to wrong door.

21:73 Gulf office. (Answer to question, "Which office?")

22:5 I had fun in swimming pool today.

In all cases the definite article is required in both French and Spanish equivalent sentences, so it does not seem that interference is responsible for these errors. It rather seems that in concentrating on content words he is neglecting function words, in the same way as a young child learning his first language. 3:84, 12:84 and 13:213 are possibly not errors if the nouns in question are considered proper nouns.

The phonological error of saying [de] for <u>the</u> did not occur after Tape 5, as the English /ðə/ was by then

fairly well mastered.

Examples of redundant a, an, the:

1:50 [It] is a chicken. (Response to, "Tell us what we're eating.")

3:29 This is the teacher, the Mr. Strinkel.

3:66 The boys is different. (Means children.)

4:28 In the school I working the spelling book.

5:60 At the school?

6:53 It don't give anymore to the television.

7:86 He come from the London.

10:170 Tomorrow we have the music.

11:85 ...he has to make a one.

12:7 All the week homework.

13:124 Is [it] a yellow hair? (Inquiring meaning of blonde.)

14:155 She has a sunglasses, looking [at] movie.

16:66 So the General of De Gaulle was there in Washington.

17:10 Does he fight a bird? (Referring to the cat.)

18:24 Glacier is a water falling down.

19:122 We have to work before the school is out.

21:45 Why do the airplane burn when they touch the bottom?

(None in Tapes 15, 20, 22)

1:50 may show some interference from French, which would require the definite rather than the indefinite article in this case. 11:85 does not seem to be due to interference.

3:29 is clearly a case of interference from Spanish, which requires the definite article before titles such as señor when not in direct address; French follows the English pattern. In 16:66, however, French and Spanish both require the definite article before this title, so double interference is apparent.

10:170, 14:155, 17:10, and 18:24 seem to show interference from French rather than from Spanish, as in these cases the Spanish patterns like the English, do not require articles. In each case, the French pattern would be de + ART: de la musique, des lunettes, de l'eau.

It is suggested that 7:86 also shows French interference. Some time after this tape was recorded it became apparent that Jean-Marc thought that London was a country, as he had never heard his parents referring to England or Great Britain. Since French requires the definite article with the name of a country, this may account for this error. Spanish only requires the article with certain countries.

13:124 also shows French rather than Spanish interference. The French pattern (des cheveux jaunes) is

different from the Spanish (pelo amarillo).

All the other examples show both French and Spanish interference, as both languages follow the same patterns in these cases. 3:66 shows the French and Spanish pattern of the definite article used when making a statement of general fact. The error in 4:28 is due probably to the fact that he has not yet learned that at school is the equivalent for à l'école/en la escuela. In 5:60 he has part of it right, but still inserts the before school. A similar error is found in 6:53, which also involves the wrong preposition. On television has not yet been learned as the equivalent of à la télévision/en la televisión. 12:7 clearly shows the influence of the French and Spanish patterns, toute la semaine/toda la semana.

Examples of errors involving the use of one for a:

4:20 I have on one sweater and this shirt.

4:83 Me and one girl.

5:83 Make one book. (Response to, "What do you have to do [for homework]?")

6:92 ...and I shoot on one box.

10:85 One boy who is name[d] Clay...

11:77 ...one boy he sometimes can be scare[d].

15:109 Oh, because we were playing outside and one guy trip me.

(None after Tape 15)

All are clearly due to interference from both French and Spanish, whose indefinite articles un/un are used to denote one of a quantity. He associates them with the English one rather than with a, an.

The is used with constructions naming parts of the body and clothes in the following examples:

1:61 It is in the stomach.

5:9 Because the pants [were] short?

7:117 No, with the teeth.

8:112 ...we cross the eyes...

15:33 So the people have to select touch the hand.

16:8 It (referring to arrow shot at a bird) went to the wings.

(None after Tape 16).

All of these follow both the French and the Spanish patterns of using the definite article rather than the possessive pronoun with parts of the body and articles of clothing.

A similar type of interference occurs in the following:

7:99 I am the boyfriend. (for her boyfriend.)

A for the and the for a were used in the following cases:

3:29 This is the teacher... (Response to, "Was it a teacher?")

10:66 It's a name of the man who work in desert.

11:38 Do a French drive a bicycle?

11:39 ...you don't have to ride a bicycle of the other children.

18:25 The glacier is falling down the hill slow, slow, slow, like the turtle.

19:186 A tower - it's a radio control in airport.

21:83 This [Means it] is a name of a city.

21:96 It's a name of a city?

With one exception, these mistakes do not seem to be due to interference, but rather to non-mastery of the definite/indefinite concept. The exception is 18:25, which follows the French and Spanish patterns, comme la tortue/como la tortuga.

A for an occurred three times, and was attributed to non-mastery:

10:66 ...play a instrument

16:70, 71 ...a Arab

The remaining article errors occurred once each:

4:120 And cookies the dessert. (for with dessert)

10:66 ...play a instrument.

12:51 ...Eight thirty the night. (for at night)

14:138 So she was surprised because she found some boy [referring to himself] who speaks French.

The first and third are likely due to non-mastery; the second one shows interference from the French and Spanish patterns du soir/de la noche; he has dropped the preposition but still retains the article.

h. Omission of Constituents

Omission of essential elements occurs throughout the tapes, contributing a telegraphic effect to Jean-Marc's speech and constituting his major error. The rate of omission fluctuates, but decreases somewhat in the later tapes.

A total of 504 omissions were made, of these elements:

	Tapes		Total
	1-11	12-22	
Omission of NP	165	123	288
Omission of VP	151	65	216
Totals	316	188	504

The breakdown of NP omissions is as follows:

	Tapes		Total
	1-11	12-22	
Omission of it	96	90	186
Omission of subject	43	16	59
Omission of dir. obj.	26	17	43
Totals	165	123	288

Of the NP omissions, about three fifths (186) were of it as a subject or direct object. As this neuter pronoun does not exist in either French or Spanish, it is understandable that he has a good deal of difficulty in

mastering its use. There was hardly any improvement in use of it throughout the tapes.

Of other NP omissions, 59 were of the subject and 43 of the direct object. It is suggested that this indicates stronger interference from Spanish than from French, as the Spanish subject pronoun is usually omitted, since it is indicated by the verb ending. French, like English, requires inclusion of subject pronoun replacing subject noun, except in imperative constructions. Both of these omissions decreased substantially in the later tapes.

The breakdown of VP omissions is as follows:

	Tapes 1-11	Tapes 12-22	Total
Omission of AUX	66	28	94
Omission of Copula	37	17	54
Omission of Verb	25	3	28
Omission of Verb PRT	23	17	40
Totals	151	65	216

The large proportion of AUX omissions is probably due more to incomplete mastery of English than to interference from the other languages. Many were omissions of the empty carrier do in negative and interrogative constructions. Since these patterns are specific to English, it is not surprising that they present difficulties for mastery.

Copula omissions occur mostly in the early tapes, with the exception of Tape 20, which has five errors of

this type. These omissions do not seem to be due to interference, but rather to over concentration on other elements in a sentence causing him to forget the insertion of the copula in his transformations from deep to surface structure. Omission of the copula is, according to Richards (1971), a typical error in English as a second language.

Verb omissions are almost all confined to the first half of the tapes. It is clear that this error, probably due to non-mastery, has nearly been overcome.

The omission of verb particles is the one error in this category which shows little improvement. It is likely due to the fact that this category does not exist in either French or Spanish, which have different verbs to express the meanings of English verb + particle combinations such as look at, look for, look up, look like, etc.

i. Redundancy of Constituents

Repetition of redundant items is not a major problem in the tapes. Types of redundancy and totals are:

	Tapes 1-11	Tapes 12-22	Total
Redundant NP	71	24	95
Redundant VP	13	6	19
Others	0	3	3
Totals	84	33	117

Of the redundant NP's, by far the greatest number

(74) were of the type: Bobby he said...; the teacher she... This is such a typical pattern for native speakers of English of elementary school age that it must certainly be attributed to lack of language mastery rather than interference, and is probably the result of imitation of forms heard at school.

Redundant VP's are few in number and occur infrequently. Typical examples are:

3:40 I don't know what is it is.

3:50 I don't know remember.

3:216 You said finish the ice cream, you said?

4:148 In my card is my birthday is five of November.

11:160 There was everybody was with their feet up and their head down.

13:185 ...so Mrs. Simpson do [means tells us] what do we have to do.

14:180 And we stay to see watch a movie about the war.

15:33 So the people have to select touch the hand.

3:40 and 13:185 seem to indicate a confusion of interrogative and relative clause word order, due perhaps to the double function of what in both patterns. In the last example, he seems to be making use of the AUX do as empty

carrier according to the interrogative pattern.

3:50 is repeated elsewhere in the same tape, but never again. He either decided that remember was preferable to know or else was attempting to indicate that he neither knew nor remembered.

3:216 indicates unfamiliarity with the tag pattern, did you? will you? etc. Practice in this pattern is initiated later in this same tape (3:230 - 234) by the parents, and is more or less mastered from that point on.

4:148 is probably the result of an incorrect transformation process. The correct sentence would be: On my card, my birthday is November 5th. If the intermediate structure is: My birthday is on my card; my birthday is November 5th, then perhaps Jean-Marc forgot to delete the second is in his final transformation.

11:160 seems to be due to a confusion about word order. He had probably heard both there was everybody and there everybody was, and was unsure which was best in this case.

In both 14:180 and 13:33 the difficulty seems to be in verb selection; it seems as though the second verb in each case was the one which he felt to be on second thought, a better choice.

Other redundancies were:

13:29 ...when you can go in your house when you

finish.

15:1 Today Mrs. Cashion was sick today.

15:107 We have to do with bat like the same of baseball?

These errors appear to be due to non-mastery.

2. Errors in Sentence Formation

Difficulty was encountered in English word order and typical sentence patterns. In negative and interrogative transformations, errors were clearly due to interference from French and Spanish patterns. Most mistakes in minor sentence patterns such as transitive receiver (indirect object) were also attributable to interference. Complement pattern errors also indicated direct translations from French and Spanish. Other patterns involving embedded sentences and subordination showed some interference.

a. Word Order

Simple assertions without subordination were examined for word order errors which made the sentence sound un-English. In the 22 tapes there were 50 errors of this type, which were further classified according to the kind of error involved:

NP:subj follows VP	22
PREP phrase with <u>for</u> misplaced	5
NP:dir. obj. in initial position	8
Coordinate NP's misplaced	2
ADJ or ADV misplaced	8
Other	5

(None in Tapes 15, 16, and 21)

The most frequent error is in placing the subject after the VP rather than before it. Examples:

3:102 Is finished the chocolate.

4:25 Mmm, delicious the corn.

4:153 Tomorrow is closed the [library].

5:61 Finish[ed] are we.

6:8 All I do. (Means, "I did all that.")

8:138 Is touching his stomach on the floor.

9:23 Is very hot the soup.

11:156 All break it. (Means, "It all broke.")

12:74 And like this it is done the coat room.

14:147 It's blue the color.

18:15 Well, it says the geography book...

22:122 Is not good, prunes with the other things.

Influence from Spanish patterns which have a choice of word order in the corresponding patterns can be detected in 3:102 (Se acabó el chocolate), 4:25 (delicioso el maíz), 4:135 (Mañana está cerrada la biblioteca), 6:8 (Todo hice), 8:138 (Está tocando el piso su estómago), 9:23 (Está muy caliente la sopa), 12:74 (Y así se hizo el guardarropa), 14:147 (Es azul el color), 18:15 (dice el libro) and 22:122 (no son buenas, ciruelas con...). All of these are typical Spanish patterns, whereas the French pattern follows the English one of NP:subj + VP. It has been observed that Jean-Marc frequently makes the same error in French, that is, C'est + (past participle) (adjective) + NP. Evidently the influence of the Spanish word order is so strong that

it affects his French as well as his English. It is possible that 4:25 is a parenthetical expression, in which case it should not be counted as an error. The other two examples, 5:61 and 11:156, are not normal word order for any of the three languages; the context of the two utterances was as follows:

(5:61) F: Did you play football today? (pause) Jean-Marc...

J-M: After school?

F: Yes.

J-M: Finish are we. We don't have. Finish.

(11:156) J-M: But then Chuck he caught the ball, touched the wool...

M: (correcting) The blanket.

J-M: The blanket, all voom! All break it. And they (referring to the girls who were practicing for a show in a sort of tent of blankets) say, "Stop, we don't want you see us." When it touch, it get down all the blan... the...I forgot...

M: The blanket?

J-M: The blanket.

Examples of misplaced prepositional phrase involving for:

3:15 For the eraser he go.

3:206 For me two [scoops of ice cream].

4:2 It is for me big.

6:40 For me a little more big.

17:81 I think for your mother we have to buy watermelon.

3:15 and 4:2 have an unnatural conversational word order in all three languages. 3:206, 6:40 and 17:81, however, are possible as parenthetic expressions in English and perhaps probable in French and Spanish.

Examples in which the NP:dir. obj. was misplaced:

7:144 Rhubarb I am eating.

9:123 No, the girl it was.

13:88 So the paper I give to you.

18:46 So nobody won't get up early to me.

7:144 and 9:123 are possible though not really conversational in Spanish but impossible in French, therefore it seems that the Spanish influence is again predominant, just as it is in 13:88, which represents perfectly normal word order in Spanish. In 18:46 the problem is probably compounded by the presence of the verb particle up; get me up early is a sequence he has probably not heard, and therefore uses the familiar get up early + the equally familiar transitive receiver to me..

Misplacement of ADJ or ADV occurred in the following:

4:29 I first finish[ed] the spelling book.

(Meaning he was the first person in class to finish it.)

11:225 I don't want to get dirty the other.

17:67 Mamita, today I went long time outside.

19:83 Is tomorrow going to rain?

20:106 Because I like better to paint.

22:83 Each week seven days?

4:29 requires the same word order in Spanish as in English (Terminé el libro de ortografía primero); when rendering the sentence in French, its real error becomes apparent: J'ai fini le livre d'orthographe d'abord; but, J'étais le premier à finir le livre d'orthographe. In both English and Spanish first and primero can refer to order in either time or in person; the second French pattern would be required in Spanish to give the meaning he seems to have intended from the context of the conversation: Fuí el primero para terminar... English may also use this pattern for maximum clarity (I was the first to finish), but in casual conversation can also use the first French pattern without necessarily changing the meaning (I finished first). In the other example (11:225) he probably equated get dirty with salir or ensuciar and therefore treated it as an inseperable verb combination. The error in word order in 17:67 may be due to the fact that the equivalent of outside is not necessary in either French or Spanish, because the verbs sortir and salir express the meaning of go outside.

19:83 shows interference from Spanish and probably French, which in similar construction could place mañana and demain as he did. 20:106 contains an error similar to 17:67, that is, the French and Spanish need only a single verb (je préfère, prefiero), whereas English has the combination of verb + particle in which the particle follows the verb complement rather than the finite verb. 22:83 follows the French and Spanish word and is acceptable in English.

Coordination of NP's presented a problem twice:

14:80 ...so I walk[ed] with her talking and two girls we were talking.

14:134 Last..Monday Steve's grandmother went to school and Steve's mother.

Neither of these seems to be due to interference, but rather to an afterthought; he decided to expand the sentence after he had already started to say it. This is probably a normal characteristic of this age.

Other word order errors were:

8:113 ...to look that way we can.

10:61 ...write a word like sentences of desert. (Means, "Write a sentence with the word desert.")

13:54 The teachers...were looking out the door at crying Kelly.

13:162 ...the one who look a[t] that book to [the]

dictation copy...

In 8:113, part of the VP (look that way) has been placed in initial position, similar to the other errors involving placement of VP before NP:subj. It does not, however, seem to be due to interference. 10:61 indicates confusion, whether semantic or not is difficult to ascertain, between the two NP's sentence and word. 13:54 represents a mistake in embedding: The teachers were looking...at Kelly; Kelly was crying. In his transformation, Jean-Marc not only deleted Kelly was correctly, but also changed the position of crying. Another possibility is that he intended to use crying as an adjective. In both French and Spanish the embedding is achieved by the relative clause transformation and gives a different pattern: ...Kelly, qui pleurait; ...Kelly, que lloraba. This pattern is perfectly possible in English also, but he did not choose to use it. In 13:162 the error is contained in the complement, whose object precedes the verb. Both French and Spanish require the same word order as English in this case, so the error is not due to interference.

b. Negative Formation

It was expected that formation of English negative sentences would prove difficult to master because of the difference in these patterns in English and the other two languages. In fact, there were 44 errors involving negative

usage in the first 19 tapes; none were made in Tapes 15 and 16, or after Tape 19. Ther errors were classified as follows:

Use of no for AUX do + not	19
Use of no for be or will + not	10
Double negative	6
No for not	5
Not for no	2
Other	2

Examples of use of no in place of AUX do + not:

1:87 Me no put the milk in the floor.

2:19 She no look [at] it.

3:140 I no remember.

4:35 I no like doctor.

5:44 I no know what is it.

6:62 But I no have any book.

(none in Tapes 7-12 or 14-22)

13:203 But Mrs. Cashion no. (for But Mrs. C. doesn't.)

All of these sentences follow the Spanish pattern, which places the negative no before the verb. French requires the addition of pas after the verb of AUX (Je ne me rappelle pas). Both French and Spanish interference seem to have made it difficult for him to learn the English negative pattern, and possibly Spanish may have the strongest interference.

In 13:203 the pattern is Spanish (Pero la señora C. no) rather than French (Mais pas Madame C.). He has not yet understood the difference in usage between no and not and has not mastered the mechanism of the AUX do in negative constructions in the early tapes.

Examples of use of no for be or will + not:

1:79 This no is chicken.

2:21 She no looking.

3:210 No, I no finish. (Response to, "Are you finished?")

3:265 I wash not now.

4:136 I no have cake tomorrow?

4:173 Mommy, the tape no in the floor.

(None in Tapes 5-22)

These errors are of the same kind as those described above, and can be attributed to the same interference. The fact that they are less numerous than the first category and disappear after the first four tapes probably indicates that this pattern is far easier to master than the one using the AUX do.

Examples of use of double negative:

7:20 Steve too don't know nothing.

9:93 Because nobody do nothing to me.

12:48 I didn't said nothing because...

14:88 You can't see her never.

18:46 So nobody won't get up early to me.

19:139 We can't never finish to study Science...

Interference is apparent because all of these follow French and Spanish patterns of negative construction. On the other hand, this type of error is not unheard of in children who are native speakers of English, so he may have heard these patterns at school. The fact that none appear in the first six tapes probably indicates unfamiliarity with negative words such as nothing, nobody, never, etc.

No for not was used in the following cases:

3:151 Not this Monday, today no, the next one Monday.

4:70 Tomorrow no.

7:169 No, no all, but some.

10:166 ...Mrs. Roberts she leave [lets] everybody play a[n] instrument, but in Mrs. Hook['s class], no.

17:84 In Switzerland no.

The interference here seems to be mainly from Spanish, which has one negative word to express the English no and not. In the corresponding French patterns, the use of pas would be equivalent to the English not in the above examples.

Not for no appeared twice:

4:48 Not, tomorrow [I'll be] twelve.

11:80 Why (means when) is not car, nobody are

scare[d].

4:48 cannot be attributed to interference. 11:80 should be is no car but could just as easily be isn't a car, and this error could therefore be due to an article omission.

The other errors in negative formation were:

1:151 You not touch me!

14:42 Is not there, I think.

In 1:151 the error is due to the omission of the AUX did, which has been seen to be the most common mistake in negative patterns. It is interesting that even as early as the first tape he was aware of the existence of the English negative not, though not able to use it correctly. In 14:42 he probably shows more influence from French word order than from Spanish, as C'est ne pas là, je crois is acceptable, whereas the more usual Spanish pattern would be Creo que no esta allí. A preferable English pattern would have been I don't think it's there.

c. Interrogative Formation

As could be expected, a great many errors in the formation of questions were due to lack of mastery of the English AUX do in the interrogative pattern. Another frequent error was use of declarative word order with an interrogative intonation contour; this was clearly due to both French and Spanish interference. Although English allows questions to be indicated in this way, it is not

as usual as it is in French and Spanish. There were 64 interrogative errors of the following types:

Omission of AUX do	25
Declarative word order	22
NP not placed between AUX and V	7
Omission of AUX be, shall, will	3
Other	7

Examples of omission of AUX do:

1:137 Where you put that?

6:46 Daddy want [some]?

7:56 Why you speak French?

8:126 What you want? (/hwat yu want/, not normal English /hwəčə want/)

10:91 ..."Why you do with small letters?"

11:64 What you said?

13:12 Why you went home?

14:40 ..."Why you bring your bag?"

15:173 How many you think?

16:107 You think a lot of my idea last time?

18:82 How many second it take you to read a page?

20:56 What you said?

21:44 If an airplane fall, it burn too?

All of these show the influence of French and Spanish, which have nothing in their interrogative formation which corresponds

to the obligatory use of the English AUX do in the above examples.

Examples of declarative word order:

1:97 Daddy, your homework is finished? (Introduction of new topic after long conversational pause).

3:276 You will finish washing the plates? (A direct request to mother)

4:55 This is for petit pois, Mother?

7:133 This is French?

8:9 That's [a] good idea, Mamita?

10:118 Where I was?

12:83 You are going to call Omar "Cat in the Hat"?

14:70 ..."Why you are not going home?"

17:19 In how many days it can?

19:43 This is like yes or no?

20:23 Daddy is going to stay all day here?

21:2 Tomorrow is Saturday?

22:89 Daddy's going to find some gold?

Although many of these examples are acceptable patterns in English, it was felt that in their contexts the more usual word order would have been AUX + NP:subj + VP. In both French and Spanish, however, the word order used in the examples is not only acceptable but even preferable.

The three WH-questions (10:118, 14:70, 17:19) may, however, reflect non-mastery, as according to Richards (1971), a typical error in first language acquisition is declarative word order in WH-questions.

Examples of incorrect placement of NP in pattern AUX + NP + V:

8:104 What does mean too bad?

12:55 Daddy what time is going to come home?

15:44 What is called that?

16:80 Mamita, how I can finish this if I...? (interrupted)

These errors in NP placement reflect French and Spanish patterns, which do not separate AUX and V in interrogative patterns. The pattern of 8:104 What does mean...? was repeated with variations only in the NP, in Tapes 10 and 11; in Tape 15 this pattern is given as What is means...? This seems to show some understanding of the use of the AUX do (and be) in English questions, though not any sure mastery.

Examples of omission of AUX be, shall:

3:192 She washing the plates?

3:263 Mother, you washing the plates?

3:264 I wash?

This appears to be a minor problem, as it does not occur after Tape 3. The omission of the AUX in the first two examples could be found in careless speech of a native

speaker of English, but the last example more clearly shows interference. Both French and Spanish require the simple present for these and do not require an AUX. Jean-Marc seems to have realized in the first two that English needs the progressive present (AUX + ING), but has not yet mastered its complete formation.

Other interrogative errors were found in the following:

6:89 Mother, is in this box big one red one (has) a gun?

7:140 Explain, what is?

15:183 Because you know Jeff has [a bicycle] like Bobby's bicycle, is so?

19:35 Is the airplane fall down yesterday?

21:84 A tower, is [it] the name of?

22:110 If we are not? (Response to: "You always have to go to school.")

Besides the errors in 6:89 involving use of the indefinite there is and adjectives in series, he has also used a word order which may reflect Spanish influence: Hay en esta caja roja grande una pistola? It is probable, however, that due to the series of adjectives in this sentence, Spanish would probably use the same order as English or French in saying this sentence. In 7:140 the NP is out of place in a WH question. French and Spanish could use this word order, but then neither has an equivalent of

the English it which would have to be added at the end of the sentence to have it make sense in English. 15:183 indicates that he has not yet learned the English tag question formula doesn't he?-isn't it? etc. Spanish in this case would use the interrogative no? as a tag and French would use n'est-ce pas?. In 19:35 and 22:110, the copula has been used instead of the AUX do; again this may be due to difficulty in mastering the usage of the English empty carrier do. 21:84 seems to be due to non-mastery, as it does not follow either French or Spanish word order.

d. Complement Pattern Formation

Since the complement pattern is an extremely frequent one in English which features various kinds of nominalized verb phrases embedded in sentences, it has been considered as a separate type of sentence for purposes of error analysis in sentence formation. As the equivalent French and Spanish patterns are formed differently, it was expected that difficulties would be encountered in this typically English pattern.

30 complement pattern sentences contained a total of 42 errors and were classified as follows:

Omission of to before V:non-finite	29
Omission of to and wrong form or use of personal pronoun	7
Omission of to and its following verb	4

Omission of to and use of ING instead of V:non-finite: 1

Other 1

Examples of omission of to before the V:non-finite:

6:35 I want drink my milk.

7:150 After school I come work with Bobby.

8:22 Bobby doesn't like come here.

9:75 ..."You may go in there work."

10:83 ...he want[ed] give me a bicycle...

13:201 If I don't know spell a word, she said how spell.

14:96 ...I think I want help some children.

15:54 I want Mrs. Cashion come tomorrow.

17:62 So do you want I plug my eyes for the dessert?

18:76 I would like you read that book, Mamita.

19:58 I don't know what you want me say.

All of these show the interference of French and Spanish, which use the pattern V:finite + V:non-finite when the subject of both verbs is identical, and V:finite + que + V:subjunctive when the verbs have different subjects as in 15:54. Introduction of the English to to precede the non-finite verb is apparently a difficult habit to master, although one might assume that in constructions where the to means in order to (as in 7:150 and 9:75), he would be less

likely to omit it as the corresponding French and Spanish patterns require à and a, respectively.

Examples of omission of to (as above) plus wrong form or use of personal pronoun:

6:108 ...you don't want I drink water.

7:81 I don't know what I do. (means to do)

9:26 What do you want I say?

13:110 Do you want I finish, Mamita?

6:108, 9:26 and 13:110 have different subjects for each verb, and therefore in either French or Spanish would have the pattern NP + VP + que + PRON + V:subjunctive. The second verb being in the subjunctive would call for a subject pronoun, rather than the object pronoun called for in the English pattern NP + VP + PRON + to + V:non-finite. It is apparent that the French and Spanish pattern has influenced his formation of the English pattern. 7:81, however, has the same subject for both verbs, so that his insertion of the subject pronoun I may in fact indicate not a complement pattern but rather subordination. Since from the context it is apparent that he does not mean what he literally says in 7:81, perhaps the error is in the omission of an AUX such as should - I don't know what I should do.

Examples of omission of to (as above) plus its following V:non-finite:

2:61 He said for first Will [Will to be first?], me second.

4:35 I no like [to be a] doctor. (Response to, "What will you be when you grow up, a doctor?")

This type of error did not occur after Tape 4. It seems more likely to be due to non-mastery than to any specific interference. 2:61 and 4:35 may reflect the difficulty of learning the <u>be</u> paradigm; the number and difference of its forms present a more complicated learning task than most other English verbs and it is possible that the non-finite form is not yet part of his vocabulary.

Example of omission of <u>to</u> plus substitution of ING for V:non-fin.:

6:74 For the teachers talking. (Response to, "What are they going to sit in a circle for?")

Here again the error appears to be a question of non-mastery of verb forms rather than interference.

The other error was:

19:118 ...and Mrs. Cashion let us to have two hour play period.

In this example he has used the complement pattern <u>to</u> where it is not required, indicating perhaps that he is becoming more aware of this pattern, even to the extent of over-using

it.

e. Minor Sentence Patterns

1) Transitive Receiver Formation

Only 5 errors involving the transitive receiver or indirect object pattern were found, and all were in the first 13 tapes. They were contained in the following examples:

3:21 He said me "black bugger."

3:92 Okay, this boy pass[ed] the center [the] ball.

4:13 I give for somebody [a] lunch card.

13:88 So the paper I give to you.

13:116 He gave to somebody else a hammer to play with.

3:21 shows Spanish and French interference in its omission of to: Me dijo...; Il m'a dit... 3:92, 13:88 and 13:116 are not un-English, but in conversation would probably be expressed rather: he gave somebody else...; passed the ball to the center; I give you the paper. In French and Spanish both 3:92 and 13:116 require à and a: la balle au centre; dió a otro. 13:88 does not: je te donne; te doy. 4:13 has for for to, which is not necessary in this construction in English as it is in either of the other two languages: je donne à quelqu'un; doy a alguien.

2) Indefinite Pattern Formation

The indefinite pattern in English (there + be + NP) is quite different from Spanish (haber + NP), and somewhat different from French (il y + avoir). Ten errors in this pattern were made, nine of them involving the omission of there and six of them also omitting be. This is evidently a difficult pattern for him to learn and he apparently tends to avoid it, as these ten examples were the only occasions in which he attempted an indefinite construction.

Examples of indefinite pattern errors:

11:60 But where [there] is not car, is easy.

11:175 So tomorrow [there is a] show.

14:22 Today [there were] no problems with Mrs. Cashion.

19:225 So the pilot thought there were a mountain.

3) Passive Formation

Only two passive constructions were attempted:

6:97 The red one gave me to me [by] Joe, Mark and Christian.

18:6 You know what do they call?

His complete unfamiliarity with passive construction may be due to the fact that these are generally avoided in conversational French and Spanish and are not especially frequent in spoken English either.

f. Subordination

The formation of sentences involving subordination and embedding, other than the complement type of sentence described above, were analyzed for errors. 42 were counted and were classified as follows:

Omission or misuse of <u>what</u>, <u>that</u>, <u>who</u>	20
Interrogative word order in embedded questions	14
Omission of subject, V and/or AUX of one clause	3
Confusing word order	4
Omission of <u>if</u>/<u>whether</u> in embedded question	1

Examples of misuse or omission of relative pronouns:

4:34 Astronaut is man [who] going in the <u>espace</u>.

5:73 I don't tell him what (means <u>that</u>) is finish[ed] the football.

6:93 No, the red one is [what] Joe he gave me.

7:61 I know what (who?) is Dr. Doolittle.

9:107 Mrs. Cashion dictate[d] something [that] is not in the book.

11:111 I think is for children [who] don't have any money.

12:67 Daddy, do you like the salad what I did?

14:53 ...John Murphy is a boy [who] go[es] to same class.

16:69 He wanted to visit, I think, to see that president [who] is dead.

His confusion of what and that in 5:73 and 12:67 is probably due to interference from both French and Spanish, which use que to express both. In 7:61 the use of what for who may be due either to unfamiliarity with their different meanings or else the reference is to the film Dr. Doolittle, a thing rather than a person. The omission of relative pronouns in the other six examples is more likely due to insufficient mastery of the formation of relative clauses rather than to interference, as both French and Spanish require equivalent relative pronouns.

Examples of use of interrogative word order in embedded questions:

3:49 I don't know what is his name.

4:127 I don't know what does it mean, this.

5:44 I no know what is it.

7:31 I don't know where is it my napkin.

9:125 I don't know what is her name.

17:50 I don't know what's W.

21:54 I don't know what's the answer.

Although French uses the same word order as English in 5:44 (Je ne sais pas ce que c'est), the other examples would use the word order that he used in English , just as would Spanish. These errors are thus apparently due to double interference.

He has not yet learned that English requires a transformation which changes the position of the VP.

Examples of omission of subject, V and/or AUX in one clause:

8:133 Surprise I am enjoy.

10:49 She couldn't understand and [so had to] copy over.

11:61 Is car is difficult, you know, because [they] go faster and you turn like this.

It is difficult to be certain whether the difficulty lies in basic sentence formation, or whether the fact that these sentences contain more than a single clause has confused him to the point where he has forgotten essential constituents.

Examples of confusing word order:

9:128 Because [some]one in movie says there in Japan the children stay every (means all) year I think [in] the school.

13:155 Mary Jo I said had four.

19:123 So I think Friday that was the last day of play period.

20:119 For big people, playing outside waste[s] a lot of time, because when you study you don't waste time, but when you play outside or do(ing) something bad that you

don't like to do, is not interesting to do, is wasting time.

These are awkward constructions but are nevertheless understandable. In either French or Spanish this word order would be somewhat awkward as well, so interference does not seem to be operating in these instances. Probably he spoke before mentally formulating the complete sentence, which seems a common enough occurence in any spoken language.

Example of omission of <u>if</u>/<u>whether</u> in embedded question:

1:90 I don't know is girl or boy.

Lack of mastery seems to be the problem here, as both French and Spanish require <u>si</u> to introduce the second clause.

3. Discussion of Errors

a. Morphology and Syntax

(1) Description of Tables 1, 2, ~~and~~ 3a and 3b

Table 1 summarizes the percentages of errors in morphology and syntax and their distribution in the 22 tapes. These percentages were obtained by counting the number of each type of error and then the number of utterances in which each type could be found. A ratio between the two amounts gave the percentage of errors. For example, all items under a and e involved verbs, so the total number of utterances per tape was equal to the number of utterances having a VP; that is, utterances classified as yes/no, exclamation/formula and NP were excluded. On the other hand, since items under b, c, d, f, g, h, and i did not necessarily contain verbs, only utterances classified as yes/no and exclamation/formula were excluded.

In order to obtain a rank order of all errors in morphology and syntax for the tapes, a numerical value was assigned to each percentage group. Thus, no errors = 0; 0.1-4% errors = 1; 5-9% errors = 2; 10-14% errors = 3; 15-19% errors = 4; 20-24% errors = 5; and 25-30% errors

= 6. No item had an error percentage larger than 30% in any tape. The numerical value for each item a through i was ascertained for each tape and then all 22 values of each item added to give a total numerical error value, termed Error Score. The complete rank order for all items in the Tapes is given in Table 2.

Tables 3a and 3b examine the nine most frequent types of error as they occur at approximately monthly intervals, from October 1968 through June 1969. These graphs give a picture of monthly progress or lack of it in mastering the grammatical items causing most difficulty.

(2) Interpretation of Tables 1, 2, and 3a and 3b

The comparison of errors in morphology and syntax (Table 1) shows that most errors have a low percentage of occurrence and are maintained at a fairly steady rate, with improvement in most categories apparent in the later tapes.

Thus, a-3, a-4 and a-5 (Verb Form errors involving -ING, Non-Finite, and Noun for Verb) present a problem only occasionally. Verb form (a-2) errors involving Past occur somewhat more frequently. Verb Forms involving use of Person (a-6) present a problem only after Tape 3, and increase somewhat from Tapes 10 to 15 and again in Tapes 18 and 20. The most acute problem in verb forms is the use of Present for other tenses (a-1). This one item

TABLE 1

ERRORS IN MORPHOLOGY AND SYNTAX

KEY TO ERRORS	%Errors	0	0.1-4 %	5-9 %	10-14 %	15-19 %	20-24%	25-30%
	Num.Value	0	1	2	3	4	5	6
a Verb Forms _1 Present for other tenses _2 Past for other tenses _3 ING for other tenses _4 Non Fin. for finite _5 N for V _6 Person	Tape 1	a-4,5,6 b-3,4,5 d,e	a-2,3 b-1,2 c,f,g,i	a-1				h
	Tape 2	a-2,4,5,6 b-1,2,4,5 c	a-3 b-3 d,e,f,g,i	a-1		h		
	Tape 3	a-4,5 b-3,5 e	a-2,3,6 b-1,2,4 c;d	g	a-1 f i		h	
	Tape 4	a-4,5 b-2,3,4,5	a-1,3,6 b-1 c;d;e	i	a-1 f g		h	
	Tape 5	a-2,4,5,6 b-2 3 4 5 e	a-3 b-1 c;d,i	f	g			a-1 h
	Tape 6	a-4,5 b-3,4,5 e	a-2,3,6 b-1,2 c;d	f g i		h	a-1	
b Noun Forms _1 Number _2 Genitive _3 V for N _4 Compounds _5 Mass/Count	Tape 7	a-3,4,5 b-3,4 c	a-2,6 b-1,2,5 d,e,f,i	g		h	a-1	
	Tape 8	a-2,3,4 b-2,3,4,5 d-	a-5,6 c;f,g;i	a-1 b-1 e				h
	Tape 9	a-3,4,5 b-2,3,4,5 d	a-2,6 b-1 c;e	f g i		h	a-1	
c Pronoun Forms	Tape 10	a-3,5 b-3,5	a-2,4 b-2,4 c;d,e;f	a-1,6 b-1 i	g h			
d ADJ Usage	Tape 11	a-2,3,4,5 c.	b-1,2,3,4,5 d,e;f,i	a-6 g		a-1		h
e ADV Usage	Tape 12	a-2,3,4,5 b-3 5	a-1 b-1,2,4 c;d;e;i	a-6	g	f h		
f PREP Usage	Tape 13	b-4,5 c d e	a-2,3,4,5 b-1,2,3 i	a-6 f g	h	a-1		
g ART Usage	Tape 14	a-3,4,5 b-2,4,5	a-2 b-3 c;d;e;i	a-6 b-1 f	a-1 g	h		
h Omission of Constituents	Tape 15	a-5 b-2,3,4,5	a-2,3,4 b-1 c;d;e;g	a-6 i	f h	a-1		
i Redundancy of Constituents	Tape 16	a-2,3,4,5 b-3,4,5 c	a-6 b-1,2 e,d,i	f	a-1 g h			
	Tape 17	a-2,3,4,5 b-2,4 d	a-1,6 b-3,5 c;e;i	b-1	f;g	h		
	Tape 18	a-2,5 b-2,3,4,5	a-1,3,4 c;d;e;i	a-6 b-1 g	h	f		
	Tape 19	a-5 b-2,5 c;d	a-2,3,4,6 b-1,3,4 e;i	a-1 f;g;h				
	Tape 20	a-4,5 b-2,3,4,5 c,d	a-2,3 b-1 e;g;i	a-1 f	a-6 h			
	Tape 21	a-1,2,3,4,5 b-2,3,4,5 c;d	a-6 e,f,i	b-1 h	g			
	Tape 22	a-2,4,5 b-2,3,5 c,i	a-3,6 b-1,4 d,e,g	a-1 f,h				

accounts for some of the largest error percentages in nearly every tape. It reaches its peak error percentage (25-30%) in Tape 5, and subsequently fluctuates between 10-14% and 20-24% through Tape 9. It drops as low as 5-9% in Tapes 10, 19, 20 and 22 only. Its lowest incidence (0.1-4%)is found in Tapes 17 and 18.

Noun forms present far fewer problems and most of these are due to errors involving number. The error percentage remains fairly constant at about 0.1-4%, except for Tapes 8, 10, 14, 17, 18 and 21, where it increases to 5-9%. Errors involving genitive (b-2) occur at the 0.1-4% rate in just over half of the tapes, with no errors of this type after Tape 16. The other noun form errors occurred very infrequently.

Errors in pronoun forms (c) occurred at the 0.1-4% rate in 13 of the 22 tapes, with none occurring after Tape 18.

Both adjective and adverb errors (d and e) remained at a fairly steady and low rate, with only e rising as high as the 5-9% error rate in Tape 8. Adjective usage shows more improvement than adverb usage, as there are no adjective errors in Tapes 19-21.

Errors in use of prepositions (f) become especially noticeable in Tapes 3 through 6 and again in Tapes 12 through 22. The improvement apparent in Tapes 7-11 ~~is~~

is not permanent, and in the last six tapes the error rate is rather high, from 5-9% to 15-19%, except in Tape 21 (0.1-4%).

Errors in use of article (g) also become most apparent from Tape 3 on, and fluctuate mostly from 5-9% to 10-14%. No improvement can be seen, except in Tapes 20 and 22, in which this error is down to 0.1-4%.

Omission of constituents (h) accounts for by far the largest percentages of errors in almost every tape. A fluctuating but fairly clear pattern of improvement can be seen, however, as the error percentage is reduced in the final tapes.

Redundancy of constituents (i) remains at a low to moderate rate (0.1-4% and 5-9%) throughout and shows little sign of improvement until the final tape.

Table 2 ranks all errors for the tapes. It gives some idea of the order of learning difficulty and/or strength of interference from other languages in these items. It is immediately apparent that omission of constituents is the greatest single problem. A closer examination reveals that 36.9% of omissions were of *it* and 9.1% of the AUX *do*. Both of these items are peculiar to English and have no counterparts in either French or Spanish; therefore it seems that zero interference is operating, that is, new patterns must be acquired which

TABLE 2

Rank Order of Errors in Morphology and Syntax

Type of Error		Error Score
h.	Omission of Constituents	86
a.-1	Verb Forms: Pres. for Past, -ING, P. Part.	62
g.	Article Usage	46
f.	Preposition Usage	45
i.	Redundancy of Constituents	28
a.-6	Verb Forms: Person	28
b.-1	Noun Forms: Number	27
e.	Adverb Usage	18
d.	Adjective Usage	14
c.	Pronoun Forms	13
a.-2	Verb Forms: Past for Pres., P. Part., -ING	12
a.-3	Verb Forms: -ING for Pres., Past, NF	12
b.-2	Noun Forms: Genitive	9
b.-3	Verb for Noun	6
b.-4	Noun Compounds	6
a.-4	Verb Forms: NF for Pres., P. Part., -ING	5
b.-5	Mass/Count Noun Confusion	3
a.-5	Noun for Verb	2

are affected neither by positive nor by negative interference from the other two languages. 74.2% of omission errors are attributed to interference, and 25.8% to non-mastery. According to Vildomec (1963), confusion is found especially in categories which do not exist in the mother language.

The next highest error incidence is in the use of present where other tenses are called for. In most cases this can be attributed to lack of mastery of verb forms; only in the case of use of present for -ING is interference from French and Spanish likely, as these languages use simple present in many situations calling for progressive present in English. Use of present for -ING accounted for only 7.9% of errors with present.

Article usage accounted for the third highest rate of errors. More than half of the errors (67.4%) were due to the omission of the article. Many omissions of a, an, some were due to interference from French and/or Spanish; omissions of the (about 34.4%), on the other hand, could not be attributed to interference. Use of redundant the, a, an, use of one for a, use of the with parts of body and clothes, accounted for nearly a fourth (22.3%) of all article errors and could be traced to interference from one or both of the other languages. The remaining proportion of errors was small and due in some cases to non-mastery and in others to interference.

Preposition usage had hearly as high a rate of errors as article usage. Errors involving use of the wrong preposition accounted for about 60% of the errors and were about evenly divided between those due to non-mastery and those due to interference. Redundant prepositions (about 12%) were due to interference, and omitted prepositions (about 28%) seemed to be due to non-mastery.

Although redundancy of constituents ranks next in percentage of errors, examination reveals that most of these (63.2%) were of a pronoun following the noun it referred to, such as, Mrs. Cashion she..., Bobby he..., the kids they..., etc. It was felt that these were not especially significant as they appear to be a fairly typical construction for native speakers of English at this age. Other kinds of redundant items appeared to be due to non-mastery also.

Errors involving person (Verb Forms) and number (Noun Forms) were about equal. Most of the errors in person were felt to be due to non-mastery. Errors in number were almost all due to use of singular for plural, and this was felt to be due to phonological interference from French and possibly Spanish.

According to Berko-Gleason (1971), for children who are native speakers of English, the rule for the formation of the third person singular and the possessive

is better or earlier learned than the same rule for the formation of noun plurals. This would indicate that Jean-Marc's difficulty with noun plurals may be developmental as well.

Adverb and adjective usage were ranked next in percentage of errors. Almost all adverb errors could be attributed to interference, and the same was true for adjective errors.

About half of the errors in pronoun forms could be attributed to interference, the rest almost certainly to non-mastery.

Use of past for other verb forms occurred mostly in the middle tapes and seemed to be due to non-mastery and possibly to over-use of recently acquired past forms.

Errors in genitive (Noun Forms) were due mostly to interference.

None of the errors in verb forms in which -ING was used for other forms could be attributed to interference.

Errors involving use of verb for noun seemed to be due to non-mastery. Those involving noun compounds were clearly due to interference. Most errors in which the non-finite verb form was used for other forms were attributed to interference. Errors involving use of noun for verb and confusion between mass and count nouns seemed to be due to non-mastery.

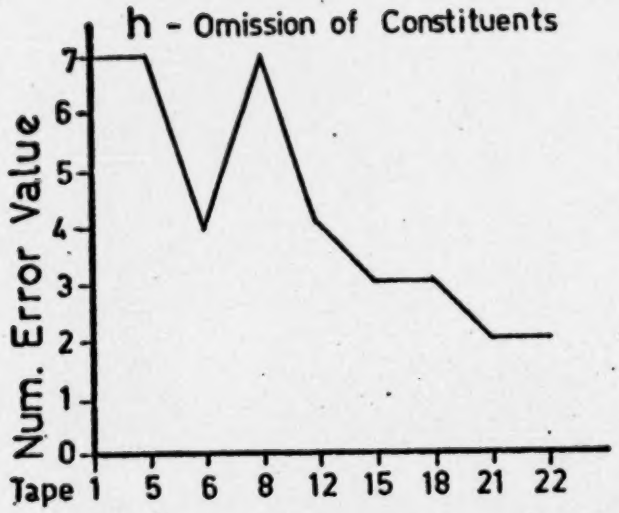
Tables 3a and 3b show the monthly progress made from October, 1968 to June, 1969, in mastering the most frequent errors. Fluctuation is evident in incidence of all types of errors, but general trends appear to be as follows:

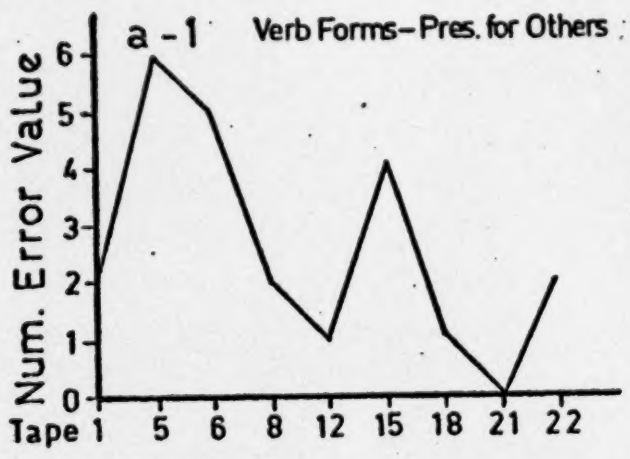
Items showing improvement	h omission of constituents a-1 verb forms-present
Items fluctuating, little improvement	g article usage f preposition usage
Items with stable low errors, little or no improvement	a-6 verb forms-person b-1 noun forms-number d adjective usage e adverb usage i redundancy

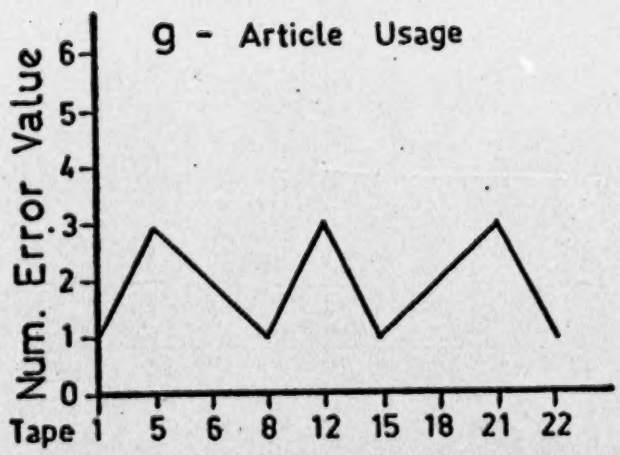
Although clearly defined improvement is perhaps not as great as might be expected in a nine month period, it should be remembered that vocabulary and sentence formation were being acquired at the same time as morphology and syntax, and that the learning situation was not structured for the specific needs of the non-English speaker. Tables 3a and 3b could be looked on as a chart of "natural" progress in learning English as a third language. It represents what a ten year old child speaking French and Spanish was able to do as a result of exposure to an English-speaking environment, rather than what he might have done had he had special teaching in areas of expected difficulties. The items with stable low errors which showed little or no improvement are areas in which incorrect

TABLE 3a

MONTHLY PROGRESS IN MASTERY OF MORPHOLOGY AND SYNTAX







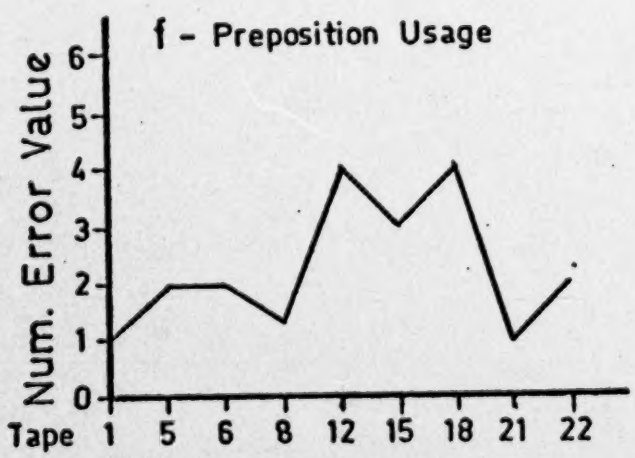
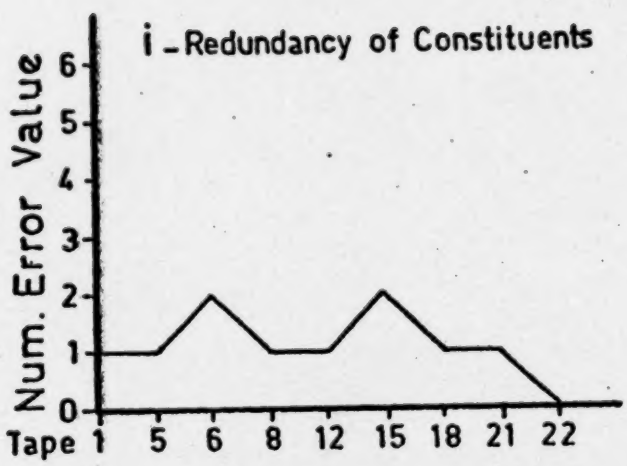
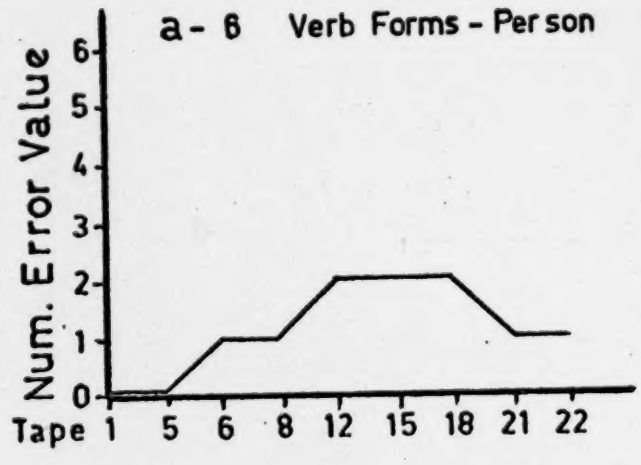
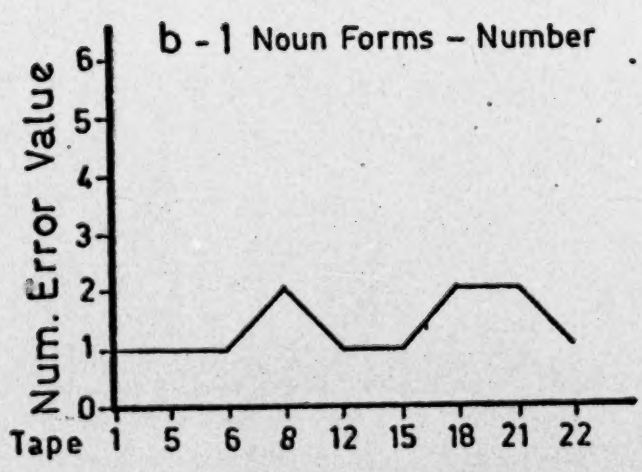


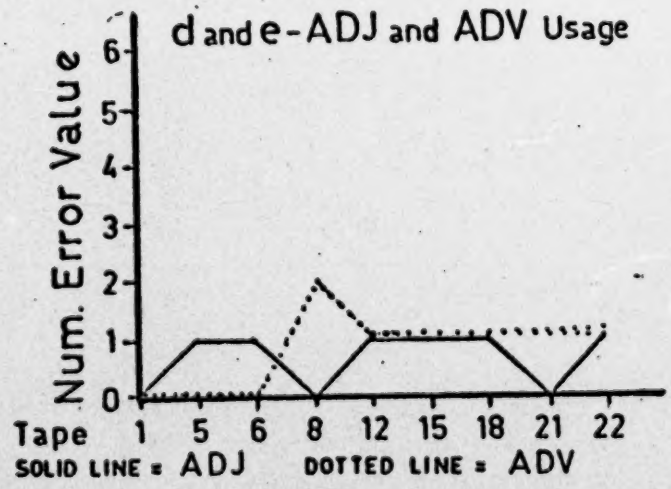
TABLE 3b

MONTHLY PROGRESS IN MASTERY OF MORPHOLOGY AND SYNTAX









habits seem to be particularly strong.

b. Errors in Sentence Formation

(1) Description of Tables 4, 5 and 6.

Table 4 summarizes the percentages of errors in sentence formation and their distribution in the 22 tapes. These percentages were found by counting the number of each type of error and then the number of each type of sentence; for errors listed under Word Order the total number of utterances excluding yes/no and formula/exclamation was used for each tape. The ratio between number of errors and number of sentences gave the error percentage. In some cases, however, only a few examples of a given sentence pattern existed in a single tape and therefore the error percentage was based on an extremely small sample. This was especially true in Minor Patterns (Transitive Receiver, Indefinite and Passive), so these error percentages are not felt to be very valid. The sample of sentences involving subordination and embedding was also fairly small in the first seven tapes; from Tapes 8 on, however, the sample is larger and the error percentages more valid. There is a great deal of fluctuation in number of complement pattern sentences, and the samples are largest from Tape 8 on also. There was a fair number of negative and interrogative utterances in each tape, and the sample for word order errors

was the largest of all.

In order to obtain the overall rank order of sentence formation errors in Table 5, a numerical value was assigned to each error percentage interval in Table 4. The numerical value for each item on each tape was added, giving an Error Score. This rank order is given in Table 5. Here again, the Error Score for minor patterns is not as valid as if it were based on a larger sample, and the same is true though in lesser degree for complement pattern and subordination/embedding. The Adjusted Error Score discounts the tapes containing very small samples.

Table 6 shows graphs for the six types of sentences examined, taken at approximately monthly intervals from October, 1968 to June, 1969, in order to show progress in mastery of each. The size of the sample for each sentence type is also indicated and should be taken into account in interpreting the results.

(2) Interpretation of Tables 4, 5 and 6.

Table 4 compares sentence formation errors in each tape. The lowest percentage of errors is consistently in word order, which never rises above 0.1-9% This does not seem to be a problem area. No conclusions can be made at this point about error percentages in minor sentence patterns, as the sample was too small.

Although there is a fluctuation in negative errors,

TABLE 4

ERRORS IN SENTENCE FORMATION

% Errors	0	0.1 - 9 %	10-19%	20-29%	30-39%	40-49%	50-59%	60-69%	70-79%	80-89%	90-99%	100%
Num. Value	0	1	2	3	4	5	6	7	8	9	10	11
Tape 1 (No Compl. P.)	Word Order		Inter.		Neg.							Sub. Minor
Tape 2 (No Sub. or Min.)	Word Order Inter.		Neg.									Compl.
Tape 3		Word Order		Inter. Compl. Sub.		Neg.			Minor			
Tape 4		Word Order Inter.		Compl. Minor		Neg.				Sub.		
Tape 5	Inter. Compl. P. Minor P.	Word Order Neg.						Sub.				
Tape 6		Word Order	Neg. Inter.			Compl.	Sub. Minor					
Tape 7	Minor P.	Word Order	Inter.	Neg. Compl.		Sub.						
Tape 8	Neg. Minor P.	Word Order Sub.		Inter.	Compl.							
Tape 9	Inter. Minor.	Word Order	Neg.		Sub.		Compl.					
Tape 10	Minor	Word Order	Neg. Compl.	Inter. Sub.								
Tape 11		Word Order Neg. Inter.	Sub.	Compl.				Minor				
Tape 12	Compl. P. Minor P.	Word Order	Neg. Sub.			Inter.						
Tape 13		Word Order Neg.	Sub.	Inter.	Compl.							Minor
Tape 14		Word Order Compl. P.	Sub.	Neg. Inter.				Minor				
Tape 15 (No Minor P.)	Word Order Neg.		Compl. Sub.		Inter							
Tape 16 (No Minor P.)	Word Order Neg. Compl.	Sub.		Inter.								
Tape 17 (No Minor P.)		Word Order Inter. Sub	Neg.	Compl.								
Tape 18		Word Order Inter. Compl.	Neg.		Sub							Minor
Tape 19		Word Order Neg. Inter. Sub.	Compl.						Minor			
Tape 20	Neg. Compl. P. Minor P.	Word Order Inter. Sub.										
Tape 21 (No Minor P.)	Word Order Neg Compl. P.		Inter. Sub.									
Tape 22 (No Minor P.)	Neg. Compl. P. Sub.	Word Order	Inter.									

a gradual overall improvement is apparent. In the first six tapes most negative errors were due to use of no for not and the omission of the AUX (in most cases the AUX do). From Tape 7 on, the errors were far less frequent and involved double negatives, confusion between no and not, and some omission of the AUX do. Since there were no negative errors in the last three tapes, it appears that this pattern is probably mastered.

Interrogative errors fluctuate in the first eleven tapes, then show an increase in Tapes 12-16, a decrease in Tapes 17-20, and another increase in the last two tapes. The most frequent problem in the early tapes is use of declarative word order in questions; the incidence of this error decreases from Tape 11 on. From Tape 7 on, the largest number of errors is due to the omission of the AUX do.

In comparing negative and interrogative errors, it appears that the negative pattern requiring the AUX do was learned far sooner than the similar interrogative pattern.

Complement pattern errors fluctuated considerably but seem to have been mastered in the last three tapes. Tapes 1, 2 and 5 had too small a sample of complement pattern sentences for the error percentage to have much significance. All except one involved omission of to in the construction VP:finite + to + VP:non-finite. In the

later tapes this was the only error.

Sentences having subordination or embedding showed an overall improvement with some fluctuation from tape to tape. The sample in Tapes 1 and 2 is too small to be meaningful. The sample from Tape 3 on increases fairly steadily, so that the error percentage in the later tapes is probably fairly valid. If this is so, then the improvement noted is significant. In the first nine tapes most of the errors are due to use of interrogative word order in relative clauses, with some errors involving relative pronouns. From Tapes 10 to 16, however, there are no word order errors, but instead an increase in relative pronoun errors.

Table 5 ranks all sentence formation errors in the first 16 tapes. It shows both the original Error Score and the Adjusted Error Score, which discounts tapes with small samples. For the latter, Tapes 1 and 2 were not counted for errors in subordinate formation as they contained only one subordinate sentence. Tapes 1, 2 and 5 were not counted for errors in complement pattern formation because they contained only two constructions of this type. Minor patterns occurred so infrequently that probably this whole category should be left out of the rank order; however, by discounting tapes containing one or no minor patterns, only the errors in Tapes 3, 4, 6,

TABLE 5

RANK ORDER OF ERRORS IN SENTENCE FORMATION

Type of Sentence	Error Score	Adjusted Error Score
Subordination and Embedding	69	58
Complement Pattern	53	43
Interrogative	43	43
Minor Patterns (Transitive Receiver, Indefinite, and Passive	72*	39*
Negative	38	38
Word Order in Simple Assertions	17	17

*Not very valid

9, 10, 11, 12, 14, 19 and 20 can be counted and this result is included in the column headed Adjusted Error Score. It is apparent that the problem contributing to the largest amount of errors is in subordination and embedding, while the fewest problems are encountered in word order of simple assertions. Complement, negative and interrogative patterns showed substantial errors of approximately equal amount.

In errors in subordination/embedding, interference from both Spanish and French was found in use of interrogative word order in relative clauses, which accounted for 33.3% of subordinate errors. Omission of relative pronouns(38.1% of total errors) was attributed to non-mastery, whereas confusion between what and that (9.5% of total errors) was felt to be due to interference from both other languages. The remaining errors (19.1%) were probably caused by non-mastery.

Complement pattern errors involving omission of to before a non-finite verb and wrong use or form of personal pronoun were all attributed to interference from both French and Spanish. Other errors in this pattern were few in number and probably due to non-mastery (14.3% of total complement errors).

All interrogative pattern errors could be traced to interference from French and/or Spanish. Omission of

the AUX do and use of declarative word order accounted for 73.4% of interrogative errors.

Almost all negative errors were found to be due to interference, and it seemed probable that Spanish interference was stronger than French. Nearly 66% of negative errors were due to use of no for AUX + not, and almost two-thirds of these involved the AUX do.

The number of minor patterns used was extremely small. Errors in the transitive receiver pattern (indirect object) were all attributed to interference from both other languages. Errors in the indefinite pattern (there + be + NP) consisted of omission of there and usually be as well; it was not ascertained whether these were due to interference or non-mastery. The errors contained in the two passive patterns in these tapes were probably due to non-mastery.

Word order errors in simple assertions showed the lowest percentage of errors. 44% of these errors were due to the NP:subject following the VP instead of preceding it; nearly all of these were attributed to interference from Spanish rather than French. 15% of the errors were in sentences in which the NP:direct object had been misplaced; it was felt that these were due to interference from Spanish rather than French. Misplaced adjectives and adverbs also accounted for 15% of the

errors, and in most cases were found to be due to interference. 10% of the errors were contained in prepositional phrases in which <u>for</u> was misplaced; only half could be attributed to interference. Almost all of the other word order errors were due to non-mastery.

Table 6-13 shows progress made in sentence formation at approximately monthly intervals. Tapes with very few utterances of the pattern charted were not used, with the result that each chart has a slightly different series of tapes at as nearly equal intervals as possible. Fluctuations were apparent in most sentence patterns, but the following trends were apparent:

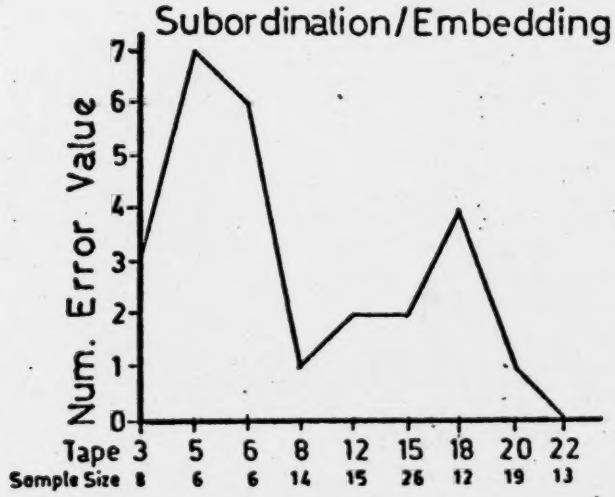
Patterns showing improvement	Subordination/embedding Complement pattern Negative
Patterns not showing consistent improvement	Word order Interrogative Minor patterns

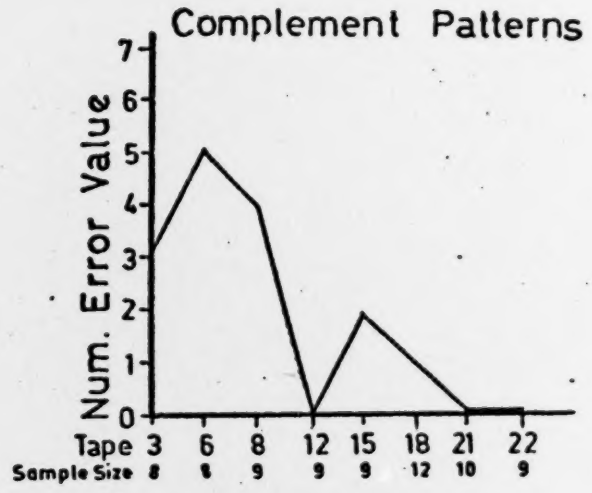
As stated previously, the sample of minor patterns was extremely small and therefore no conclusions about progress in this area can be made.

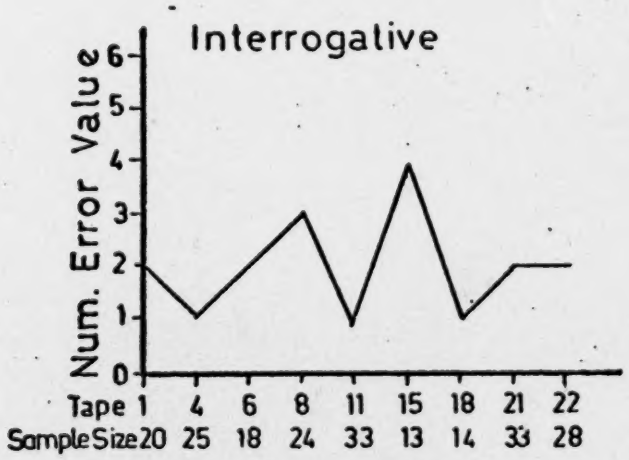
Lack of progress in interrogative patterns indicates not only that this is a difficult pattern probably because of the English AUX <u>do</u>, but also because the habit of using declarative word order with an interrogative intonation contour is sufficiently close to the borderline of acceptable English that it is readily understood

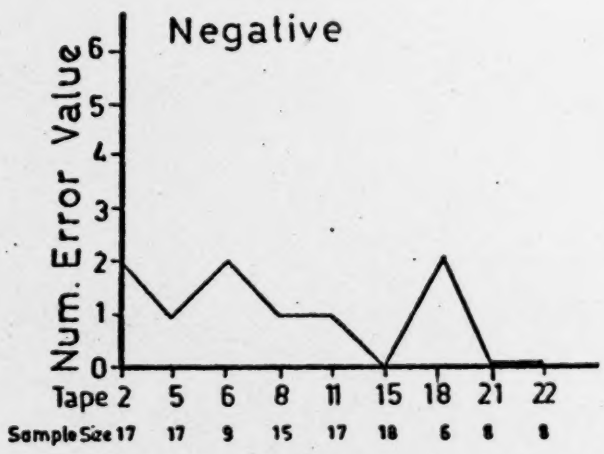
TABLE 6

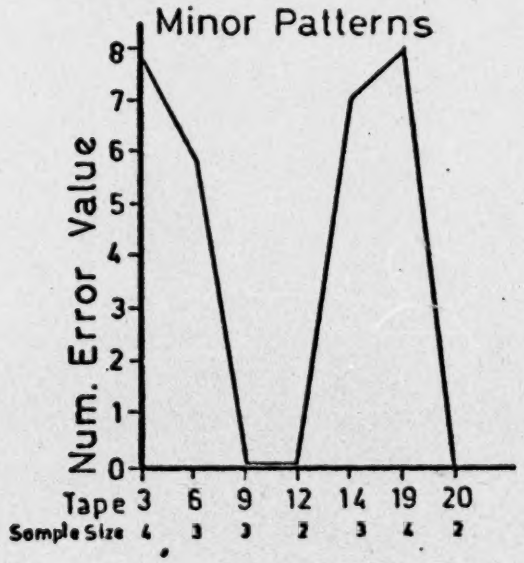
MONTHLY PROGRESS IN MASTERY OF SENTENCE FORMATION

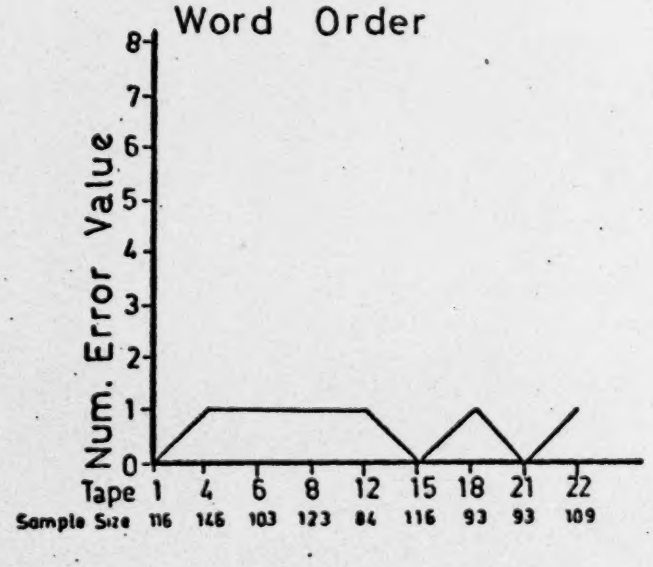












and therefore infrequently corrected by teachers and parents. Word order fluctuated between no errors and a low error percentage, with no consistent improvement.

Substantial improvement was made in the formation of subordinate and complement pattern sentences. The improvement in negative patterns was less dramatic, but caused fewer problems to begin with.

c. Remarks

The value of the tables discussed in this section (Tables 1 through 6) lies in the picture they give of the principal problems faced by a 10 year old French- and Spanish-speaking child learning English as a third language. They show what progress can be expected in a nine month period when the child is able to live and study in an English-speaking environment. Insofar as Jean-Marc is typical of a child with a bilingual background, the record of his acquisition of English provides information which might be useful to the teacher of English as a second or third language.

Areas of special difficulty obviously need more intensive work than is provided in an ordinary classroom where the non-English-speaking child is expected to pick up English through exposure alone. Problems caused by interference from other languages need especially careful attention, as they are not as likely to improve through

exposure to the new language as much as problems due merely to non-mastery. In the case of the child bilingual in two related languages such as French and Spanish, areas of double interference will probably be more difficult to overcome than areas in which one of the languages has patterns equivalent to English.

In these tapes, over twice as many errors were seen to be caused by interference as by non-mastery. The breakdown between the two types of errors follows:

	% Due to Interference	% Due to Non-Mastery
Omission of constituents	74%	26%
Verb Forms: Present for others	8%	92%
Article usage	60%	40%
Preposition usage	42%	58%
Verb Forms: Person	5%	95%
Noun Forms: Number	100%	
Adjective usage	95%	5%
Adverb usage	95%	5%
Subordination/embedding	43%	57%
Complement Pattern	86%	14%
Interrogative	100%	
Negative	95%	5%
Word order	79%	21%
Totals (only major errors listed)	882	418

In terms of teaching strategy, special drills and pattern practice could be used to help the child internalize the English habits which appear most difficult to acquire. Since a large proportion of the single most frequent error, omission of constituents, was due to omission of <u>it</u> and

the AUX do, drills employing these two typically English patterns would be profitable. Errors in verb forms (Present for other tenses and wrong person) while frequent, seem to be due mostly to non-mastery and therefore would probably gradually be overcome as more mastery is acquired. Errors in number were felt to be due to the background of French and a particular dialect of Spanish; this problem might not be as acute for a child with a different language background. Correct use of articles, prepositions, adjectives and adverbs, however, would probably be difficult for most learners of English and extensive drills appear necessary.

In sentence formation, subordination and embedding show the most frequent errors, but many of these seem to be due to non-mastery rather than interference. This may be due to the fact that use of subordination increases with chronological age in native speakers of English (Loban, 1963), and hence non-mastery errors can be expected at the elementary school level. The errors attributed to interference were use of interrogative word order in relative clauses and confusion between that and what. Intensive pattern practice would probably help establish correct habits in forming this type of sentence.

A great deal of attention should be given to correcting the formation of complement pattern sentences,

as these are extremely frequent in English and the pattern is considerably different from its French and Spanish equivalents.

Many of the errors in negative and interrogative constructions were due to omission of the AUX do, as mentioned above in omission of constituents. Difficulty was also encountered in using not for negative constructions. Transformational drills going back and forth from affirmative to negative, statement to question, and eventually to negative questions, would help establish the correct patterns.

The word order errors due to interference were almost all caused by Spanish rather than French. Extra practice is called for in patterns of normal English word order in simple assertions.

Many of the problems identified would show more rapid mastery if specific help were provided in the classroom. Although it is feasible for a ten year old child to acquire English through exposure alone, it is apparent that the process is quite a long one and that unfortunately incorrect habits can be acquired along the way which are difficult to overcome later.

The ideal situation for learning English as a second or third language would be the combination of living in an English-speaking environment and provision of a learning

situation tailored to the specific needs of the child learning English as a new language.

CHAPTER IV

PHONOLOGICAL ANALYSIS

1. Sound Systems of English, French and Spanish

The individual embarking on his third language may have a certain phonological advantage in that he already possesses two sound systems and therefore a larger phonological repertoire. Although the new language will almost certainly have new sounds to master, there may be sounds in the first two languages which are very similar to some in the third. On the other hand, having a larger phonological repertoire may merely increase the amount of intereference that will operate on the third language, so it is difficult to tell whether a student learning a third or fourth language will find his multilingualism an advantage or a disadvantage. According to Vildomec (1963), simplification of a sound system due to the influence of another language occurs more frequently than does enrichment.

Looking at a chart of the consonants of English, French and Spanish (Table 7), it can be seen that there are many near equivalences in at least two of the languages, and even some in all three. Logically, the most difficult consonants to master by the French-Spanish speaker would be the ones exclusive to English, that is: the alveolar /t/, /d/ and /n/; [ǰ], [θ], [ð], [ŋ]; English l's (alveolar /l/ and dark /ɫ/); and the English /r/. Since Jean-Marc's first language was French, one would expect the consonants that do not exist in French though they do in Spanish, [č] and /h/, to be next in order of difficulty. Finally would be the consonants which exist in French but not in Spanish, [š], [v], [z] and [ž]. Some interference could be expected from exclusively French or Spanish consonants

TABLE 7

THE CONSONANTS OF ENGLISH, FRENCH AND SPANISH

	Bilabial		Labio-Dental		Dental		Alveolar		Alveo-palatal		Palatal		Velar		Uvular		Glottal	
	Vl	Vd	Vl	Vd	Vl	Vd	Vl	Vd	Vl	Vd	Vl	Vd	Vl	Vd	Vl	Vd	Vl	Vd
Stops	p	b			t̪	d̪	t	d					k	g				
Affricates							č	ǰ										
Fricatives		β	f	v	θ	ð	s	z	š	ž			x				h	
Nasals		m				n̪		n				ɲ		ŋ				
Laterals						l̪		l				ʎ		ɫ				
Semi-Vowels		w						r				y						
Trills								r̪								R		
Flaps								ɾ										

Consonants exclusive to English are underlined in red.
Consonants exclusive to French or Spanish are underlined in green.
English consonants having French and/or Spanish counterparts are not underlined.

such as [β], [R], trill /r̥/and flap /ɾ/, [ɲ], [ʎ]; and the dentalized /t/, /d/, /n/, and /l/. The consonantal analysis that follows shows that some of these suppositions are borne out while others are not.

On the other hand, predicted vowel difficulties do in fact materialize. As can be seen from Table 8, English vowels are very different from French and Spanish ones; only two, /a/ and /o/ are fairly close in all three languages, and /o/ rarely occurs in the dialect of English to which Jean-Marc was exposed. By far the greatest number of vowels are peculiar to English, and it could be expected that these would present serious difficulties. Three French vowels very similar to their English counterparts, /ɛ/, /ə/ and /ɔ/, should give him an advantage over an exclusively Spanish language background. But the three vowels common to French and Spanish which do not exist in English, /i/, /e/ and /u/, could produce especially strong interference.

Because stress and pitch are considerably different in the three languages, some difficulty could be expected with English suprasegmentals. French has a fixed stress falling always on the last syllable of the phonetic group, whereas English is a free stress language and the stress can vary according to the meaning (Malmberg, 1963). English and French both have three to four levels of stress,

TABLE 8

THE VOWELS AND GLIDES OF

ENGLISH, FRENCH AND SPANISH

	Front	Central	Back
High	i iy ɪ		u uw ʊ
Mid	e ɛy ɛ	ə	ow o
Low	æ	ay aw a	ɔ ɔy

Vowels and glides exclusive to English are underlined in red.

Vowels exclusive to French and Spanish are underlined in green.

English vowels having French and/or Spanish counterparts are not underlined.

and in this feature they differ markedly from Spanish, which has only strong and weak stress. In pitch, insofar as it can be considered separately from stress, English intonation contours are more similar to French than to Spanish, as both have four levels of pitch (though English employs the fourth highest level for exclamatory purposes only). Spanish, however, has only three, and many frequent intonation patterns employ only two. A comparison of typical patterns for the three languages in Table 9 gives an idea of some of the differences.

The phonological analysis is based on three-minute selections from each of the 22 tapes. These selections were then transcribed phonetically using the International Phonetic Alphabet, with alteration of a few symbols as indicated in Tables 7 and 8.

Sounds which are similar though not identical in two or all three of the languages are enclosed in strokes / /; sounds exclusive to one of the languages or identical in two of them are written phonetically rather than phonemically, that is, enclosed in brackets[]. Certain differences between sounds were not easily distinguishable on the tapes, mainly those dentalized in French and Spanish and alveolar in English; therefore, /t/, /d/, /n/ and /l/ are written phonemically only. Since the English /r/ occurred more frequently than any other

TABLE 9

TYPICAL PITCH PATTERNS FOR ENGLISH, FRENCH AND SPANISH*

Statements	WH-Questions
2 3 1 It's twelve twenty↓	2 3 1 What time is it↓
1 2 3 4 1 Il est midi vingt ↓	1 2 3 1 Quelle heure est-il↓
2 1 1 Son las doce y veinte↓	2 1 1 Qué hora es↓

Yes/no Questions	Two clauses
2 3 3 Have you finished↑	2 3 2 2 He worked 3 days → and then 3 1 left↓
12 3 4 Avez-vous fini↑	1 2 3 2 2 Il a travaillé 3 jours → et 3 1 après il est parti↓
1 2 2 Ha terminado↑	1 2 2 1 2 1 Trabajó 3 días → y luego se fué↓

*Adapted from Stockwell and Bowen, The Sounds of English and Spanish, 1965, pp. 28-29 and Malmberg, Phonetics, 1963, p. 84.

variety, it is written /r/ for convenience. The vowels are all written phonemically and identified as to language because of the differences between even closely similar vowels in the three languages. The English glides are indicated by the addition of /y/ or /w/ to the simple vowels, thus: /ɪy/, /ɛy/, /ay/, /aw/, /ɔy/, /ow/, /ʊw/. Other phonological markings include: aspiration ($/p^h/$, $/t^h/$, $/k^h/$); terminal junctures (falling ↓, rising ↑, continuing →); stress (strong or primary ´, secondary ^, tertiary `, weak ˘); and pitch (^{1} = low, ^{2} = mid, ^{3} = high, ^{4} = very high).

Because the author's speech was Jean-Marc's most constant model, it served as a standard for "correctness". However, any item known to be typical for native English speakers of Central Texas was considered correct.

Since the actual number of words per taped selection varied considerably in spite of the fact that each was of three minutes duration, an error percentage based on the ratio of errors to number of words in the selection was calculated for all major errors. These error percentages were used to show what if any improvement occurred.

2. Phonological Errors

a. Consonants

Consonantal errors were not nearly so frequent as

those involving vowels, and were confined to a relatively few phonemes. Many expected difficulties did not materialize; some errors were so deeply entrenched that little improvement was apparent. The errors were classified as follows:

	Tapes 1-11	Tapes 12-22	Total
/d/ for [ð]	83	86	169
[s] for [z]	78	73	151
Non-aspiration where required after /p/, /t/, /k/	87	38	125
errors involving English /r/	7	11	18
/t/ for [θ]	2	1	3
[β] for [v]	2	1	3
[f] for [v]	0	3	3
[š] for [č]	2	0	2
[ž] for [ž]	2	0	2
[ʎ] for /l/	1	0	0
omission of /h/	1	0	1
Omission of /y/	0	1	1

From this it appears that there are essentially only three areas of serious problems with consonants. Error percentages in the different tapes had these characteristics:

non-aspiration - extreme fluctuation of error percentages in Tapes 1-9; but definite improvement from Tape 10 on.

/d/ for [ð] - fairly steady error percentage throughout; little sign of improvement.

[s] for [z] - fluctuation in first 20 tapes; improvement in Tapes 21 and 22.

errors with /r/ - fairly steady error percentage and occurrence only in Tapes 1, 2, 4, 16, 18, 19.

other errors - infrequent occurrence.

Aspiration after initial voiceless stops presented a serious problem at first, but began to be mastered in the later tapes. The English [ð] seems to be much harder to master, in spite of the fact that it does exist in Spanish as an allophone of /d/. In English, however, it is encountered in initial position as in then, this, the, whereas in Spanish [ð] occurs internally only.

In many cases of use of [s] for [z] the difficulty lay in non-mastery of the English plural morpheme. Interference from Spanish, which has no [z] phoneme, appears very strong; there may also be some effect from English orthography.

It was expected that the English /r/ would cause considerable difficulty, as it is so unlike the French [R] and the two Spanish ones, the trill [r̝] and flap [ɾ]. It was surprising, therefore, to find that in fact there were

relatively few errors with this phoneme.

The other consonantal errors were infrequent. [š] for [č] was due to French interference; [β] for [v] and [f] for [v] to Spanish interference. Mastery of the English [θ] seems to have been achieved after Tape 12; it is interesting that this voiceless fricative was so much easier to learn that its voiced counterpart.

Two English phonemes which do not exist in either French or Spanish, [ǰ] and [ŋ], were expected to cause some difficulties but in fact did not. No errors involving these occurred.

Several English phonemes are very similar to their French and/or Spanish counterparts, differing only in point of articulation. The quality of the recording was not good enough to distinguish whether the /t/, /d/, /n/, and /l/ were dentalized as in French and Spanish, or alveolar as in English. In some cases it was difficult to tell if the English dark /ɫ/ was used correctly, but in most cases words such as milk, Will, girl, ball, etc. were clear enough to hear the dark /ɫ/. An exception was goal (3:94, 3:95), which was pronounced as in Spanish /goḷ/.

Examples of non-aspiration:

1:87 /mi no p̲ut dəmɹəlk ɪn dəflor/

2:57 /p̲ok æn bin/

3:08 /ai p̲ut wən æn hi p̲ut t̲ʊw/

4:70 /t̲umɔrow no/

5:47 /bikawz daina šɪy t̲uk → daina t^{h}uk mit/

6:59 /nau ai k̲ænt/

7:57 /dɪy k̲æpɪtal əv t̲eksas is ɔstɪn/

8:66 /di k̲æŋgəru k̲æn rən nainti/

9:87 /æn hi t̲ol mi/

10:87 /nobadɪy k̲æn rid ɪt/

11:99 /ay gat t̲ʊw gow/

12:56 /æt hwət t^{h}aim ɪz dædɪy k̲amɪyŋ howm/

13:90 /t̲udɛy ay hæd fən t^{h}ʊw skʊwl/

14:91 /šɪyz gowɪyŋ t^{h}ʊw bɪy ə nu t̲ɪyčər/

15:122 /bɪykas radɪy ɪs ɪn may t̲ɪym/

17:56 /bət yʊw sɛd ɪs p̲rʊwns/

18:85 /ɪn smɔl ɪt t̲ɛyks abawt fayv mɪnəts/

19:70 /bɪykəz ɪt wəz k̲owld/

20:87 /sɪy wɪn t̲ʊw t̲aym ɪn wən dɛy/

21:92 /dɪznɛylaend iz ðə nɛym əv ə t̲awn/

(None in Tapes 16 and 22)

Interference from both French and Spanish appears to be especially strong, making it difficult for him to produce the aspirated /p/, /t/ and /k/ where required by English. When he uses aspiration correctly for the first time in Tape 3 in the words /t^{h}wɛlv/, /p^{h}ʊt/ and k^{h}eč^{ə}/, it by no means represents any sort of mastery. Through Tape 9

he continues to not aspirate more often than to aspirate, and even to forget aspiration in a frequent word such as put after having earlier used it correctly in the same word. 5:47 is a good example of this kind of fluctuation; both /tuk/ and /t^huk/ are produced in the same sentence. One instance of aspiration was always produced correctly, the /k^h/ beginning the name of his teacher. This was probably because of constant classroom repetition by the other children, all of them native speakers of English. From 10 on, he aspirates more frequently than not, but continues to make a few errors of this type in all tapes except 16 and 22. These failures to aspirate where necessary are almost all in words which he does produce with correct aspiration at other times in the same tapes.

Examples of use of /d/ for [ð]:

1:85 /də mɪəlk/

2:55 /dats gud/

3:85 /moder/

4:73 /ai laik dis ɱit/

8:58 /æn dei teik of may həŋgriᵊ/

9:91 /ən den/

10:113 /for boi hæf t^huw sit dɛr/

14:100 /so dɪy ədərs ruwm hæv t^huw ɛy hɛlpər t^hɪyčər/

18:92 /ɛvrɪybadɪy ar əp dæn mi/

18:93 /fardər/

(Tapes 5-7, 11-13, 15-17 and 19-22 have repetitions of previous errors)

More than half (86) of the 169 errors of this type were contained in the word the. Probably the high frequency of this word and of others such as this, that, there, then, they, was responsible for the large number of errors in this category. Strong interference from both French and Spanish has made it difficult for him to master the English [ð]. However, even as early as the first tape, there are some instances of [ð], as in 1:98 and 1:100 /moðer/. But even this word is by no means mastered, as twice in Tape 3 he produces /moder/. In the same tape he produces /ðei/, but in Tape 8, /dei/. Tape 9 has /ðɪs/ and /ðos/, but Tape 10 has no instances of [ð] at all. Tape 11 has only two, /faðər/ and /məðər/. Aside from six occurrences of [ð] in Tape 16, this phoneme is produced quite infrequently until the last three tapes. Tape 20 has /ðə/, /ðɛn/, /ðɛy/, /əðər/ and /ðaets/, but it has more frequently /də/, /dɪy/, /dɛn/ and /dɛy/. Tape 21 has five correct utterances of /ðə/ and one of /ðɛr/, while Tape 22 has two each of /ðə/ and /ðɛy/, and one of /ðæts/. In spite of some improvement in correct use of this phoneme in the final tapes, it is apparent that [ð] is very far from being mastered and in fact constitutes one of his major phonological problems.

Examples of use of /t/ for [θ]:

4:61 /t̲ri æ̲nd for/

4:63 /ar wi wərkiŋ t̲ri nəmbərs end for/

12:60 /nət̲ɪyŋ/

These were the only three instances of this error, as except from these, [θ] was always produced correctly. It is difficult to understand why the voiceless interdental fricative should be relatively easy to master when its voiced counterpart is a serious problem, since neither exists as an independent phoneme in French or Spanish. The reason may lie in the area of perception rather than production. Since [ð] is an allophone of the Spanish /d/, perhaps he hears [ð] as /d/, as these phones are in complementary distribution in Spanish, not distinctive phonemes as in English. Because he mastered [θ] fairly easily, it seems safe to conclude that perception is the main reason for his difficulty with [ð].

Examples of use of [s] for [z]:

1:89 /ɪs̲ gol/

2:61 /for θurvs̲dei/

3:90 /hwer bois̲ fowr pæs də bɔl/

4:76 /rais æ̲nd pis̲/

5:53 /piesəs̲/

6:65 /bət misis̲ kʰɛyšən sɛd/

7:74 /sneils̲ ǰayənt/

8:65 /nain s̲iro/

9:100 /dɪktɛyt tu mɪy dəsɛnɛnsɪs/

10:85 /wan boi hus neim klei/

10:115 /it wəs vɪrɪy fəɲɪy/

12:63 /ask mɪy ə k^{h}wesčən plis/

13:97 /hɪy wəsənt ɪn skuwl/

14:77 /bikas ay ɱvayt hɪm for ɛy šow/

15:110 /wɪθ hɪs fɪyt/

17:60 /bət wɪθ p^{h}ruwns/

18:99 /sɛkən k^{h}əms alɪyv/

20:97 /æn ðə huw mɛyk bɪyŋgow səpows t^{h}uw k^{h}ɔl dɪy nəmbər/

22:94 /t^{h}uw həndrɪd dalərs/

(None in Tape 21; Tapes 11, 16 and 19 have repetitions of previous errors)

Of the 151 errors in this category, 59 involved the word is, and a large proportion of the remainder were found in the plural morpheme.

The phoneme [z] does not exist in Spanish, though it does in French. Since the letter z in his dialect of Spanish has the sound /s/, he probably transfers this habit to English. In this case the interference from Spanish is stronger than any transfer from the French [z]. His first production of the phoneme [z] does not occur until Tape 5, which has /ɪz/ and /bikawz/; Tape 7 has /bərdz/; Tape 11 has /ɪz/ and the French /fRambwaz/. The frequently occurring word because uses [z] as its

final phoneme only eight times. /ɪz/ begins to occur with some regularity from Tape 12 on, and in the last three tapes it is always produced correctly. Although he continues to substitute [s] for [z] in a variety of other words, the phoneme [z] does seem to be nearly mastered by the last two tapes, which contain only one error of this type.

Errors involving the English /r/:

1:89, 90 /gəl/

1:97, 98 /homwək/

1:98 /moʊ̯eɹ̲/

2:57 /pok/

4:69 /ɹ̲ememb ɚr/

16:70 /hɪy sɔ ɛy æɹ̲ab ov ʊ̯ɛr/

18:88 /histoɹ̲i owr stowɹ̲ɪy/

18:97 /bɪykas frəm aɹ̲ɛnj̊ ay nu/

19:79 /wɪl tʰʊwmoɹ̲ow rɛyn/

(None in Tapes 3, 5-15, 17,and 20-22)

There were relatively few errors of this kind, which indicates that the English /r/ was not as difficult to master as had been anticipated. Errors in the first two tapes are due to omission or reduction of the full value of /r/, which indicates perhaps that in the beginning he did not always perceive /r/ in penultimate position in a word. The cases of interference are all from the Spanish flap

/ʃ/. There seem to be no instances of the Spanish trill /r̥/, or of the French [R], except in totally French words. 18:88 probably shows interference from the Spanish /istoʃia/ in /histoʃi/; four repetitions of /stowʃɪy/ in the same utterance increased the number of errors involving English /r/, but not their type. Since this error did not recur after Tape 19, it appears that the English /r/ is mastered in the final tapes.

Instances of [s̆] for [č]:

3:101, 102 /s̆kolət/

The interference here is from French rather than from Spanish, which has the same initial phoneme as English for this word.

Instances of [š] for [ž]:

2:65 /təlivɪs̆ən/ and /tələ vɪšən/

[ž] exists in French but not in Spanish. It is difficult to tell if this error is significant or not, because in the first 11 tapes there is only one other word in which this phoneme is required: 11:96 /žan maRk/. He pronounced his own name in French, naturally.

Instances of [β] for [v] and of [ɬ] for /l/:

3:104 /βainiɬa/

5:45 /βirɪy/

18:91 /ɪs ðə βərɪy fərst wən/

These show interference from Spanish. 3:104 is in fact

the Spanish word rather than its English equivalent. Although [v] does not exist in Spanish, it does form part of his French phonemic repertoire and probably for this reason does not present a learning problem in English.

Instances of use of [f] for [v]:

13:88 /sow də p^hɛypər ay gɪf t^hʊw yuw/

13:102 /ɪs not ə hɪstorɪy əf gʊd/

21:83 /əv ɛy siti owr əf ɛy t^hæ wər/

13:102 and 21:83 may show the influence of English spelling, and all three errors are probably due to interference from Spanish, which, unlike French, has [f] but no [v].

Instance of omission of English /h/:

8:52 /is/ for /hɪz/

The interference here seems to be from French, which lacks this phoneme. Aside from this one instance, the English /h/ does not present a problem, even though it is different from its Spanish counterpart in point and manner of articulation.

Instance of omission of semivowel /y/:

22:87 /y̆anuwɛrɪy/ for /y̆anyuwɛrɪy/

This error seems to be due to the effect of English orthography, as both janvier and enero are sufficiently unlike their English counterpart as to make specific interference doubtful in this particular error.

b. Vowels and Glides

By far the largest proportion of phonological errors was due to inaccurate production of English vowels and glides. These errors were classified as follows:

1) Major Errors	Tapes 1-11	Tapes 12-22	Total
/i/ for /ɪy/	163	35	198
/o/ for /ow/	119	45	164
/i/ for /ɪ/	86	55	141
/ai/ for /ay/	80	28	108
/u/ for /ʊw/	67	20	87
/a/ for /ə/	40	11	51
/ei/ for /ɛy/	42	8	50
/e/ for /ɛ/	35	2	37
/e/ for /ə/	0	20	20
/ɛ/ for /ə/	12	1	13
/o/ for /ə/	11	2	13
/a/ for /ɔ/	5	5	10
2) Minor Errors			
/a/ for /æ/	6	2	8
/o/ for /a/	6	2	8
/au/ for /ɔ/	4	3	7
/oi/ for /ɔy/	6	0	6
/u/ for /ʊ/	5	0	5

/ɪ/ for /ɪy/	3	0	3
/ou/ for /ow/	2	1	3
/ɛ/ for /æ/	1	2	3
/e/ for /æ/	2	0	2
/a/ for /ow/	2	0	2
/ɛ/ for /ɛy/	1	1	2
/au/ for /aw/	1	1	2
omission /ɪy/	0	2	2

3) Single Errors

/ie/ for /ɪy/	1	0	1
/iə/ for /ɪ/	1	0	1
/i/ for /ə/	1	0	1
/ɛ/ for /ɪ/	0	1	1
/ə/ for /ʊ/	1	0	1
/ə/ for /ɛ/	1	0	1
/ə/ for /ow/	0	1	1
/ə/ for /ɸ/	1	0	1
/ə/ for /aw/	0	1	1
redundant /u/	0	1	1

Of the total of 954 errors, 629 were contained in English glides and the remaining 325 in simple vowels. The glides probably present more difficulties for mastery because they are different from French and Spanish counterparts, long rather than short glides.

The last half of the tapes showed considerable improvement in mastery of glides. Errors in simple vowels also diminished considerably, with the exception of /i/ for /ɪ/, which after a steady decrease in error percentage in the first 18 tapes, showed a rise in errors in the last four tapes.

(1) Errors involving the English glide /ɪy/

(a) Examples of use of /i/ for /ɪy/:

1:87 /mi no pʊt də mɪəlk/

2:54 /dats gʊd itiŋ/

3:88 /ǰon mərfi hi ɪs də senər/

4:63 /wi wərkiŋ tri nəmbərs/

5:47 /daina t^huk mit/

6:54 /yu spik frɛnč → yu si/

7:55 /oklahoma siti/

8:47 /wi dɪnt si ə kæŋgəru/

9:92 /dis marnɪyŋ in skul ay was hæpi/

10:87 /nobadɪy kæn rid ɪt/

11:112 /dɛy gɪv θri bɔlz/

12:71 /ai gat ɛn aidia/

13:108 /ay θɪynk tʊwmorow ɛvribadi hæs ə p^hɪrɪyəd/

14:77 /bikas ay ɪnvayt hɪm for ɛy šow/

15:96 /bikɔz wɪy hæf t^hʊw drɔ in big $p^h$is əv p^hɛypər/

17:53 /plis/

18:88 /histoɪi owr stowɪɪy/

20:84 /biŋgo ɪz fən tu/

21:69 /sow ɪn ᵊə sitɪ/

(None in Tapes 16, 19 and 22)

The French and Spanish cardinal vowel /i/ is somewhat similar to the English glide /ɪy/, so it is not surprising that there is strong double interference. An interesting feature of 9:92 and 10:87 is the appearance of both /i/ and /ɪy/ in a single sentence. At this point he has learned to produce /ɪy/, but does not yet use it consistently.

The word because occurs frequently and almost always contains /i/ in the first syllable. Incorrect production of this word seems to have been established as a habit at an early stage. 18:88 and 20:84 show influence from the Spanish historia and bingo; the final glide of history was, however, produced correctly in 13:102, but bingo was always pronounced in Spanish. Although the use of /i/ for /ɪy/ was extremely frequent in the first eleven tapes, a very definite improvement occurred in the last eleven tapes and there were no errors of this type in the final tape.

(b) Instances of /ɪ/ for /ɪy/;

10:103 /ɪs a neim əf ɛy šip → huw də maen huw → huw → t^{h}ɛyks kɛr ov šɪp/

11:104, 108 /frɪy ays krɪm/

In 10:103 he may have been thinking of the word ship for the second sheep. The other error may be due to interference from the French crème, which has a shorter /e/ than the Spanish crema.

(c) Instances of omission of /ɪy/:

12:6 12:65 /pleiŋ/ for /plɛyɪyŋ/

16:76 /musɪk/ for /mɪyʊwsɪk/

In 12:65 it is difficult to tell if in fact /ɪy/ was omitted, or whether /i/ was used for /ɪy/ and /e/ for /ɛy/. In 16:76 there is interference from both the French and Spanish counterparts to this word.

(2) Errors involving English /ɪ/

Examples of use of /i/ for /ɪ/:

1:93 /hiər is/

2:56 /čili/

3:77 /dis ɪs mai frend/

4:64 /ai go finiš/

6:65 /bət misis k^hɛyšən sɛd/

7:62 /daktər dʊwlɪtəl hæs big ǰayənt æmɪməl/

8:58 /bikaus ay dint laik dis bin/

9:88 /ayəm goiŋ tʊw pik yʊw əp/

10:15 /it wəs vɛrɪy fənɪy/

13:96 /yɛs bət wɪl was sik/

14:90 /šɪy gow tʊw yʊwnɪvərsitɪy/

15:109 /wən gay trip mi/

16:80 /haw ay k^hæn finɪš ðis/

17:55 /ðæts æn æniməl/

18:88 /æn dis histoɹi/

20:81 /æend if dɛfrənt əv də k^hlæs sɛd now →
hɪy hæv t^huw sit dawn ɛgɛyn/

21:66 /bət ɪt difikəlt nɛym/

22:84 /bɪyfowr ɪt gɛts wintər/

(Tapes 5, 11, 12 and 19 had repetitions of above errors)

In the majority of cases this error is contained in the words is, it, this, didn't and finish, which occur frequently in all the tapes. It is possible that this error persists even after he has learned the English /ɪ/, because of habit established with these particular words at the beginning of his acquisition of English.

Words containing this error which could be attributed to direct transfer from their French and/or Spanish counterparts were: chili, university, animal, history and difficult. Although use of the English /ɪ/ shows steady improvement for most of the tape this error increases again in Tapes 19-22. In these last four tapes most of the instances of use of /i/ for /ɪ/ occur in words such as is, it, difficult and this, which had previously been produced correctly.

(3) Errors involving English glide /ɛy/

(a) Examples of use of /ei/ for /ɛy/:

2:61 /for θurʊsdei/

3:82 /mai greid/

4:65 /mei ai itiŋ/

6:64 /yestədei owr tʊdei/

7:65 /æn ǰayənt sneiks/

8:61 /ai dint teik/

9:87 /stei dɛr/

10:103 /ɪs a neim əf ɛy šip/

11:99 /den wi plei/

12:65 /ay was pleiŋ laik ɛrplɛyn/

15:107 /laik dɛseim əv beisbɔl/

21:74 /wɪy ar gowɪyŋ t^{h}ʊw sɪy wɔlt disnei/

(None in Tapes 1, 5, 14, 16, 17, 19, 20 and 22; repetition of previous errors in Tapes 13 and 18)

These errors are caused by double interference from French and Spanish, which have an /ei/ diphthong rather similar to the English glide /ɛy/. The most frequent occurrence of this error was in the word day and compounds containing it, but from Tape 10 on he seems to have mastered /dɛy/. In 12:65 he produced both /ei/ and /ɛy/ in the same sentence, indicating incomplete mastery of the English glide. 15:107 may show influence from the Spanish

beisbol. This error occurs infrequently from Tape 12 on.

(b) Instances of /ɛ/ for /ɛy/:

11:103 /okɛ̲ ↓ okɛy mamitə/

12:60 /okɛ̲/

This error occurred only twice and both times in the word okay.

(4) Errors involving English /ɛ/

Examples of use of /e/ for /ɛ/:

1:94 /ye̲s/

2:61 /hi se̲d/

3:90 /dis is də se̲nər/

4:69 /ai don not ɹe̲me̲mbər/

5:40 /aim no fre̲n əv/

7:68 /j̆ayənt e̲lefənt/

8:51 /ve̲ri fæt kæt/

9:83 /æn de̲n/

11:97 /ai se̲d wɛyt/

12:63 /t^{h}ɛl mɪy e kwe̲sč̆ən/

(None in Tapes 6, 10, and 13-22)

Since /e/ and /ɛ/ are two separate phonemes in French, the interference here seems to be from the Spanish /e/. Since he is in the habit of using both e̲'s, he has probably not yet realized that the English variety is always /ɛ/. English /ɛ/ seems to have been mastered from Tape 13 on, as no further errors of this type occur.

(5) Errors with English /ə/

(a) Examples of use of /a/ for /ə/:

1:100 /hwa̲t taim is it/

2:59 /yea̲/

5:47 /bikɐwz daina̲ šiy tuk/

6:61 /austræ lya̲/

7:57 /dɪy kæpɪta̲l əv teksa̲s is ɔstɪn/

9:93 /ai wa̲s/

10:85 /wa̲n boi hus neim klei/

11:95 /ma̲ndɛy/

12:71 /ai gat ɛn aidia̲/

16:71 /ᵊɛr wəz ɛy æʃa̲b/

18:85 /ɪn smɔl ɪt tɛyks a̲bawt fayv mɪnəts/

20:89 /šɪy wəs la̲kɪy/

21:65 /tʰʊw kʰæ lɪfowrnɪya̲/

22:97 /ar wɪy rɪlɪy gowlyŋ tʰʊw æfrɪka̲/

(None in Tapes 3, 8, 13-15, 17 and 19; repetition of previous errors in Tape 4)

The interference here is probably from Spanish rather than from French, which has a schwa similar to the English /ə/. In many of these errors, English orthography may also have had an effect, that is, he pronounces the letter a as the phoneme /a/. The word what is a fairly frequent error of this sort, but seems to be nearly mastered by Tape 11. Words such as Arab, California and Africa probably have strong interference from the Spanish pronunciation

of them. Although this errors shows some improvement from Tape 11 on, it still persists to some degree even in the final tapes.

(b) Examples of use of /e/ for /ə/:

1:98 /moðer/

4:69 /ai don not ʃemembər/

5:60 /æfte skul/

6:55 /de bʊk/

12:63 /tʰɛl mɪy e kwesčan/

(None in Tapes 2, 7-11, and 13-22; repetition of previous errors in Tape 3)

This error is contained mainly in the words mother and the, and does not occur after Tape 12. It may be due to English orthography, as above.

(c) Examples of use of /ɛ/ for /ə/:

12:67 /ɪf ay dʊw laik dɛdray sælədhwət ay dɪd/

20:83 /wɪy gɛt əbawt sɛvɛn/

(None in Tapes 1-11, 13, 14 and 21; repetition of previous errors in Tapes 15-19 and 22)

It is interesting that beginning in Tape 12, /ɛ/ for /ə/ supplants the error /e/ for /ə/. At this point he has mastered the English /ɛ/, but still has not completely learned that in many English words containing the letter e, a schwa is required for pronunciation. Use of either

/e/ or /ɛ/ for /ə/ remains at a fairly low but steady error percentage throughout most of the tapes.

(d) Examples of use of /o/ for /ə/:

1:98 /mo̲ʳer/

2:58 /no̲θiŋ/

4:67 /yu sɛ̣d də mo̲ndei/

9:96 /fowr ero̲r ɪn spɛ̣lɪyŋ/

10:89 /bɪykəs so̲mtaim is səmθɪyŋ rawŋ/

10:103 /huw tʃyks kɛ̣r o̲v šip/

11:98 /ai sɛ̣d k^{h}o̲m/

11:100 /ɪt fayv o̲klak/

13:102 /ɪs not ə hɪsto̲rɪy əf gud/

15:108 /o̲v hwət/

(None in Tapes 5-8, 12, 14 and 16-22: repetitions of previous errors in Tape 3)

Here again the interference is probably from Spanish and some of the difficulties may be caused by English spelling, which he may equate with its Spanish counterparts. 10:89 is interesting in that both /o/ and /ə/ are used in some, in the same sentence. This error does not recur after Tape 15 and appears to be mastered in the final tapes.

(6) Errors with English /æ/

Examples of /a/ for /æ/; of /e/ for /æ/; and of /ɛ/ for /æ/:

1:85 /and mi/

2:55 /dats gʊd/

3:88 /hi pas/

3:99 /meiai hef/

4:63 /tri nəmbəɾs end for/

5:43 /sad/

5:45 /šɪy nɔt βirɪy hapi/

12:54 /dɛdi/

12:63 /ask mɪy e k^{h}wesčən/

13:101 /ai ɛm glad ai wəsənt/

(None in Tapes 6-11 and 14-22)

In the cases where /a/ was substituted for /æ/, English spelling may have influenced his pronunciation. In the cases where /e/ or /ɛ/ are used, it seems likely that in trying to reach /æ/, which is fronter than /a/, he overshot his goal and went higher as well as fronter, thus producing /e/ or /ɛ/.

Even though the phoneme /æ/ has no close counterpart in either French or Spanish, it does not appear to be a serious learning problem. Most of the errors involving the English vowel /æ/ occur in the first five tapes, and none occur after Tape 13.

(7) Errors with English glide /ay/

Examples of /ai/ for /ay/:

1:100 /hwat taim is it/

2:63 /wɪl ɪs mai fren/

3:95 /ai pʊt dəbɔl ɪn də gol/

4:62 /tumɔrow faiv ænd siks/

5:40 /aim no fren ə v ---- æn daina/

7:56 /hwai yu spik frɛnč/

8:63 /di kæŋguru kæn rən nainti mails/

9:98 /bət səmθɪŋ is rait bikas ay now/

10:85 /hɪy du laik dis smɔl lɛtər/

12:68 /ay drai↓ ay draid/

13:106 /wɪy ræn ɪnsaid/

14:80 /misis sɪmpsən ɪt wəs vɛrɪy nais/

(None in Tapes 16, 17, 19, 21 and 22; repetitions of previous errors in Tapes 6, 11, 15, 18 and 20)

Out of a total of 108 errors involving the glide /ay/, 43 were contained in the word I. In the first seven tapes, I was almost always pronounced /ai/, but after Tape 7 a consistent improvement was seen, and after Tape 18, /ay/ was always produced. Another frequent word containing this error was like. It was almost always pronounced /laik/, except for the final two tapes, which had only /layk/. This error is clearly due to interference from the diphthong /ai/ in French and Spanish, which is rather similar to the English glide /ay/. Although this was one of the most frequent errors in the early tapes, mastery of this glide increased steadily from Tape 12 on, and no errors of this type appeared in the last two tapes.

(8) Errors with English /a/

Examples of use of /o/ for /a/:

3:77 /jo̲n mərfi/

3:94 /ai go o̲n ɪn dəgol/

4:69 /ai don no̲t/

7:61 /do̲ktər duwlɪtəl/

13:102 /ɪs no̲t ə hɪstorɪy əf gʊd/

22:99 /ko̲ŋgo/

(None in Tapes 1, 2, 5, 6, 8-12 and 14-21)

English orthography may have influenced his pronunciation in these examples. In the case of doctor, interference from Spanish and French is probably responsible. This error occurs only twice after Tape 7. 22:99 is the French pronunciation of the word which differs from the Spanish in stress (/kò̲ŋgó/ vs./kó̲ŋgŏ/)

(9) Errors with English glide /aw/

Instances of use of /au for /aw/:

6:59 /nau ai kæ̲nt/

15:104 /nau wɪy fɪnɪš plɛ̲y bæskətbɔl/

The French and Spanish diphthongs /au/ are similar to the English glide /aw/, so it is surprising that this error occurred only twice.

(10) Errors with English /ɔ/

(a) Examples of use of /a/ for /ɔ/:

6:72 /t^{h}uma̲row a θɪynk wi hæ̲v/

9:90 /an may bɛd/

9:98 /bikas ay now/

15:103 /yuw now ɪf wɪy plɛy saftbɔl/

18:90 /bifor ai was ɪn arɛnǰ/

(None in Tapes 1-5, 7, 8, 11-14, 16, 17 and 19-22)

The most frequent word containing this error was because. Interference is probably from Spanish, as French has a similar phoneme /ɔ/. However, /a/ and /ɔ/ are very closely similar phonemes for many native speakers of English, so perhaps this error should be discounted.

(b) Examples of use of /au/ for /ɔ/:

5:46 /bikaus šɪy t^huk mit/

6:61 /wi hæf tu du australyə/

8:58 /bikaus ay dint laik dis bin/

This error occurred also in Tapes 14, 16 and 18, each time in the word because. None in Tapes 12, 13, 17, 19, 20-22. Here again the most frequent error is in the word because; in this case, as in Australia, English spelling of the words may have influenced his pronunciation of them.

(11) Errors with English glide /ɔy/

Example of use of /oi for /ɔy/:

1:90 /ɪs gəl o boi/

The phoneme /ɔy/ occurred mostly in the words boy and boys, which were consistently pronounced /boi/ and /bois/ in

the first tapes. In Tape 15 he produced /bɔy/ correctly, and also /pʰɔynt/ in Tape 17. There were no further occurrences of this phoneme.

(12) Errors with English glide /ow/

(a) Examples of use of /o/ for /ow/:

1:86 /ai don no/

2:65 /or tivi/

3:94 /ai go on ɪn də gol/

4:61 /tri ænd for/

5:50 /ay dont remɛmbər/

6:57 /hwət buk rɪyport/

7:53 /oklahoma/

8:53 /a dont want ɛni mor tu/

9:87 /dɛdi kɔl mi dis æftənuwn bifor fowr/

10:113 /stɛnd up laik hors/

11:98 /ai gat tuw go/

12:64 /ɛrplɛyn motər/

14:79 /o↓ wən → okɛy/

16:75 /hway ɪn mɛksɪko/

18:88 /æn dis histoɪi/

20:93 /wɪy sɛy biŋgo/

22:99 /koŋgo/

(Repetitions of previous errors in Tapes 13, 15, 17, 19 and 21)

Interference from both French and Spanish has made it

difficult for him to use the English /ow/ rather than the similar cardinal vowel /o/. By Tape 9 (9:87 /bifor fowr/) he shows that he can produce the English glide but that it is not yet mastered. The words no and oh are very frequent sources of this error; even in the later tapes he prefers the French and Spanish pronunciations, but in Tapes 21 and 22 he does say /now/ and /ow/ fairly consistently. Strong French and/or Spanish influence is probably reflected in words such as motor, history, bingo and Congo. This is one of his main phonological problems, but there is a substantial improvement from Tape 12 on, at which point there is a lower though steady error percentage.

(b) Occurrences of /ou/ for /ow/ and of /a/ for /ow/:

4:71 /nou → no θæŋk yu/

5:39 /dis marnɪyŋ/

7:61 /ai nou/

9:92 /dis marnɪyŋ/

The errors are confined to two words, no (and its homonym know) and morning. /nou/ is a case of influence of the longer French and Spanish glides, but it is difficult to understand why he produced /marnɪyŋ/, unless there is interference from the first syllables of matin and mañana. There are no other occurrences of morning in these tapes.

(13) Errors with English /ʊ/

Examples of /u/ for /ʊ/:

2:65 /lu̲kət/

5:46 /bikaus šɪy t^{h}u̲k mit/

6:56 /t^{h}u̲dei/

This error in a vowel which is considerably different from its French and Spanish counterparts actually presented very little learning difficulty. /u/ for /ʊ/ did not recur after Tape 6.

(14) Errors with English glide /ʊw/

Examples of /u/ for /ʊw/:

1:96 /no θaeŋk yu̲/

3:84 /tu̲dei ai go intu̲ ǰim plei futbɔl/

4:70 /tu̲mɔrow no/

5:60 /aefte sku̲l/

6:61 /tu̲mɔrow wi hæf tu̲ du̲ austrælya/

8:50 /ai dɪnt si ɪt ɛni kæŋgəru̲/

10:100 /dei p^{h}eint wɪθ blu̲/

11:104 /fraydɛy æftə^{n}nu̲n/

14:99 /šɪy čus hwət rʊwm šɪy want/

16:76 /səm musɪk əv toto/

(None in Tapes 2, 15, 17, 19, 21, and 22; repetition of previous errors in Tapes 7, 9, 12, 13, 18 and 20)

Interference from the /u/ of French and Spanish is quite

strong, probably because of its resemblence to the English glide /ʊw/. Frequently recurring words such as you, to, do, etc., account for a majority of the errors. By Tape 11, however, /yʊw/ seems to have been mastered, as it is produced correctly throughout this tape and all of the subsequent ones. The incidence of this error fluctuates, but after Tape 18 decreases to reach zero in Tapes 21 and 22.

c. Suprasegmentals

Because English is a free stress language, it was not possible to set up hard and fast criteria for errors. Only patterns that sounded completely un-English were counted as wrong. In many cases untypical but possible patterns were used for emphasis, and these were considered correct if appropriate to the conversational situation in which they occurred.

Errors were classified as follows:

	Tapes 1-11	Tapes 12-22	Total
errors in stress	39	13	52
errors in pitch	25	12	37
Totals	64	25	89

In the majority of cases, errors in pitch and stress occurred together in a single phrase and are therefore discussed together. There were no conclusive errors in juncture or terminals, probably because these are very similar

in all three languages, though with somewhat different distribution.

Examples of errors in pitch and stress:

3:84 /tudei ai go intu jim plei futbɔl↓/

3:61 /finiš ar wi→/

8:47 /wi dɪnt si ə kæŋgəru↓/

9:90 /æn dɛn omar was sitɪyŋ ɪn may bɛd→/

10:85 /hɪy du laik dis smɔl lɛtər↓/

11:95 /mandɛy ay əm goɪyŋ tu si də jɛf broər↓/

12:65 /ay was wɔkɪyŋ → tɜrnɪyŋ laik dis → ay

was pleiŋ laik ɛrplɛyn↓/

13:111 /ay hæv lɔt əv məšrʊwm↓/

14:85 /ə sow ay wɔk wɪθ hər→/

15:104 /nau wɪy finɪš plɛy bæskətbɔl↓/

16:66 /dɛjɛnɛrəl əv də gɔl was dɛr ɪn waš ɪŋtən↓/

18:97 /bɪykas frəm aɪɛŋʃ ay nu→/

3:84, 9:90 and 10:85 show French pitch patterns; the first has the pattern of a typical statement, and the last two follow the French pattern of pitch 3 for the peak of each of two groups in the sentences. French influence on stress can also be seen in the words /tùdéi/, /ǰím/, /ómar/ and /diš/, which have the stress on the last syllable of a word or phonetic group. 5:61, 8:47 and 11:95 show Spanish pitch and stress patterns. 5:61 is the first part of a two-phrase utterance and remains on pitch 2, as is normal in Spanish. 8:47 and 11:95 show typical pitch patterns for statements in Spanish. The alternating strong and weak stresses are also typical of Spanish. Errors in word order in 5:61 and 10:85 may have had an effect on pitch patterns. The examples from Tapes 12 through 18 all show interference from Spanish. All have a pattern of alternating high and medium pitch synchronized with strong and weaker stress, which is a typically Spanish intonation pattern.

Error in pitch:

20:85 /ay nɛvər win↓/

The sequence of pitch levels in this sentence follows a typically French pattern; in this particular case, both

the French and the English stress patterns are the same.

Examples of errors in stress:

1:87 /mi no pʊt də mɪəlk ɪn də flor↓/

2:65 /tivi→/

7:58 /teksas kæpɪtəl→/

8:50 /ai dɪnt si ɪt ɛni kæŋgəru↓/

14:77 /bikas ay ɪnvayt hɪm for ɛy šow↓/

15:103 /yʊw now ɛf wɪy plɛy saftbɔl↓/

18:96 /ay kɛč ɛvrɪybadɪy nau↓/

20:88 /bɪykəs šɪy gɛt də sɛym k^{h}æ rd↓/

22:87 /ǰanuwɛrɪy↑/

1:87 shows a typically Spanish pattern of alternating strong and weak stresses. 2:65 is an error of stress which does not appear to be caused by either of his first two languages. 7:58 gives even stress to all vowels except /i̇/, following neither the French nor the Spanish

pattern. 8:50 has three strong stresses, whereas typical English would have only two at most: I didn't see any kangaroo, or only one of these. The interference here is probably from the Spanish stress pattern. 14:77 and 15:103 follow the French stress pattern, with the strong stress on the last syllable of the phrase. 18:96 has incorrect stress in the word everybody, and 20:88 has a secondary stress on the word get, which gives an un-English sound to the whole sentence. It is difficult to account for the error in stress in the word January, but it is possible that influence from the French janvier caused him to stress the third syllable of the word in English, which corresponds to its final syllable in French.

Of a total of 89 errors in suprasegmentals, more than two-thirds (64) were found in the first eleven tapes; the incidence of this type of error decreased sharply in the last half of the tapes, and in the final four tapes there were only three errors. It seems that the English patterns of pitch and stress are very nearly mastered, in spite of the effects of interference from French and Spanish.

3. Discussion of Errors

a. Consonants

(1) Description of Tables 10, 11 and 12

Table 10 summarizes the percentage of errors involving consonants and their distribution in the 22 tapes. These percentages were obtained by counting the number of errors of each type per taped selection and the number of words in each selection. A ratio between the two amounts gave the error percentage.

In order to obtain a rank order of all consonant errors, a numerical value was assigned to each error percentage group. Thus, 0 errors = 0; 0.1-2% errors = 1; 3-5% errors = 2; 6-8% = 3; 9-11% errors = 4; 12-14% errors = 5; and 15-17% errors = 6. No consonant errors had an error percentage larger than 17% in any tape. The numerical error value for each consonant was computed for each tape, and then all 22 values were added to give an Error Score, or total numerical error value. The Error Scores for each kind of error were then ranked in Table 11.

Table 12 shows the monthly progress made in mastering the four most frequent types of consonant errors. The tapes chosen for these graphs were at approximately monthly intervals, from October 1968 to June 1969. The numerical error values used on the vertical bar correspond to those obtained for the error percentages in Table 10.

(2) Interpretation of Tables 10, 11 and 12

The incidence of consonantal errors (Table 10) is confined to three principal errors, [ð], non-aspiration and [z].

Use of /d/ for [ð] fluctuates somewhat in the early tapes, rising as high as 12-14% errors in Tape 3. From Tape 5 on, however, this error stabilizes at an average error percentage of 3-5%, dropping to 0.1-2% in the last two tapes. This may represent a slight improvement in the production of this phoneme, but on the whole it seems clear that the English [ð] remains a persistent phonological problem.

Non-aspiration showed wide fluctuation in the first 11 tapes, ranging from error percentages of 0.1-2% up to 15-17%. In the second half of the tapes, however, this error improved considerably and stabilized at an error percentage of about 0.1-2%.

Use of [s] for [z] also showed considerable fluctuation throughout, going from error percentages of 0.1-2% up to 9-11% in the first half of the tapes, and 0 to 6-8% in the second half. Improvement was apparent in the last three tapes.

Errors involving the English /r/ occurred only occasionally, and always in the error percentage range of 0.1-2% to 3-5%. Since this error appeared only in Tapes 1, 2, 4,

TABLE 10
ERRORS IN CONSONANTS

% Errors	0	0.1-2 %	3-5 %	6-8 %	9-11 %	12-14 %	15-17 %
Num. Value	0	1	2	3	4	5	6
Tape 1	/ɵ/ /ʧ/ /ʒ/ /ʌ/ /ɴ/ /ɦ/	asp	/r/	/ð/	/z/		
Tape 2	/r/ /ɵ/ /ʧ/ /v/ /ɪ/ /ɦ/	/ð/ /z/ /ʒ/				asp	
Tape 3	/k/ /ɵ/ /z/ /ɦ/	/c/ /v/ /ɴ/	/z/	asp		/ð/	
Tape 4	/ʒ/ /ʧ/ /v/ /ɴ/ /ɦ/	/z/ /ɵ/ /r/	asp	/ð/			
Tape 5	/r/ /ɵ/ /ʒ/ /ʧ/ /ɴ/ /ɦ/	/z/ /v/	asp /ð/				
Tape 6	/r/ /ɵ/ /ʒ/ /ʧ/ /ʌ/ /ɪ/ /ɦ/		/ð/ /z/		asp		
Tape 7	/r/ /ɵ/ /ʒ/ /ʧ/ /ʌ/ /ɴ/ /ɦ/	/ð/		/z/			asp
Tape 8	/r/ /ɵ/ /ʒ/ /ʧ/ /ʌ/ /ɴ/	/ɦ/	ð	/z/		asp	
Tape 9	/r/ /ɵ/ /z/ /ʧ/ /v/ /ɪ/ /ɴ/ /ɦ/			asp /ð/	/z/		
Tape 10	/r/ /ɵ/ /ʒ/ /ʧ/ /ʌ/ /ɴ/ /ɦ/	asp	/ð/	/z/			
Tape 11	/r/ /ʧ/ /v/ /ɵ/ /ɴ/ /ʒ/ /ɦ/	/z/	asp /ð/				
Tape 12	/r/ /ʒ/ /ʧ/ /v/ /ɴ/ /ɦ/	asp /ɵ/	/ð/ /z/				
Tape 13	/r/ /ɵ/ /ʒ/ /ʧ/ /ɴ/ /ɦ/	asp /v/	/ð/	/z/			
Tape 14	/r/ /ɵ/ /ʒ/ /ʧ/ /ʌ/ /ɴ/ /ɦ/	asp	/ð/	/z/			
Tape 15	/r/ /ɵ/ /ʒ/ /ʧ/ /ʌ/ /ɴ/ /ɦ/	asp	/ð/ /z/				
Tape 16	asp /ɵ/ /ʒ/ /ʧ/ /v/ /ɴ/ /ɦ/	/z/ /r/		/ð/			
Tape 17	/r/ /ʧ/ /ɵ/ /v/ /ʌ/ /ʒ/ /ɦ/		asp /z/	/ð/			
Tape 18	/ɵ/ /ʌ/ /ʒ/ /ɦ/ /ʧ/	/v/	asp. /ð/ /z/ /r/				
Tape 19	/ɵ/ /v/ /ʒ/ /ʌ/ /ʧ/ /ɦ/	asp /ð/ /r/		/z/			
Tape 20	/r/ /ʧ/ /ɵ/ /v/ /z/ /ʌ/ /ɦ/	/z/	asp	/ð/			
Tape 21	/z/ /ʒ/ /r/ /ʧ/ /ɵ/ /ʌ/ /ɦ/	asp. /ð/ /v/					
Tape 22	asp /r/ /ɵ/ /ʒ/ /ʧ/ /v/ /ʌ/ /ɦ/	/ð/ /z/ /y/					

16, 18 and 19, it is difficult to tell whether its absence in the last three tapes is due to chance or to improvement in the mastery of this phoneme.

Other consonantal errors occurred infrequently and at a low error percentage.

Table 11 ranks all errors in consonants for the 22 tapes. The three principal errors have nearly the same error score, which is between five and six times greater in frequency than the next highest error score, that of errors with the English /r/. All three main errors can be attributed to interference from his other languages rather than to non-mastery, although one might consider non-mastery of [ð] as a developmental error, in accordance with Leopold's finding (in Bar-Adon, 1971), that fricatives are learned after stops and nasals, though before affricates and liquids.

[ð] does not exist as a phoneme in either French or Spanish. Although it does exist in Spanish as an allophone of /d/, it always occurs internally, and this may have made it difficult for him to make any transfer to English, where most of the errors involving [ð] occurred in words having this as their initial phoneme. Another reason for this high error score was the frequency of occurrence in English of words such as the, this, that, they, etc.

Neither French nor Spanish has aspiration after initial /p/, /t/, and /k/, so that for this English peculiarity,

TABLE 11

RANK ORDER OF CONSONANT ERRORS

Type of Error	Error Score
/d/ for [ð]	49
non-aspiration	46
[s] for [z]	46
errors with English /r/	8
[β] for [v]	3
[f] for [v]	2
/t/ for [θ]	2
[s̬] for [z̬]	2
[s̬] for [c̬]	1
[ʎ] for /l/	1
omission of /h/	1
omission of /y/	1

zero interference (neither positive nor negative) is apparent.

[s] for [z] was as frequent an error as non-aspiration. Here the interference seems to be exclusively from Spanish, as French does possess the /z/ phoneme. His dialect of Spanish pronounces the letter z as /s/. Although /z/ exists in Spanish as an allophone of /s/, its distribution is limited to the s preceding voiced consonants and the semivowels /w/ and /y/. A majority of his errors with the English /z/ were those in syllable final position, such as in the words is, was, his, etc.

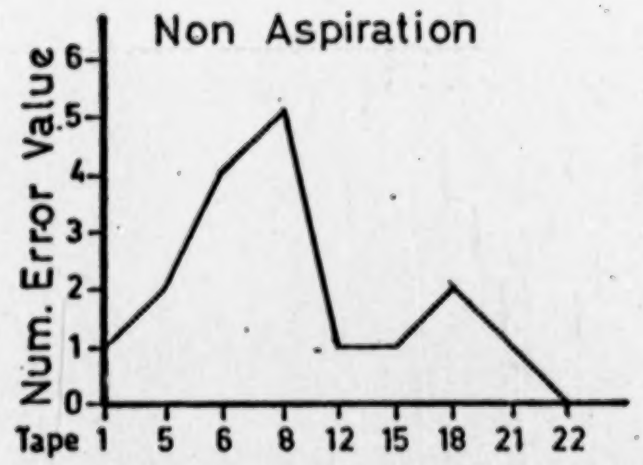
The English retroflex /r/ caused far less difficulty than had been anticipated in view of its difference in point and manner of articulation from the French and Spanish varieties. In almost all cases of errors involving this phoneme, interference from the Spanish alveolar flap [ɾ] was obvious. The French uvular [R] occurred only in totally French words.

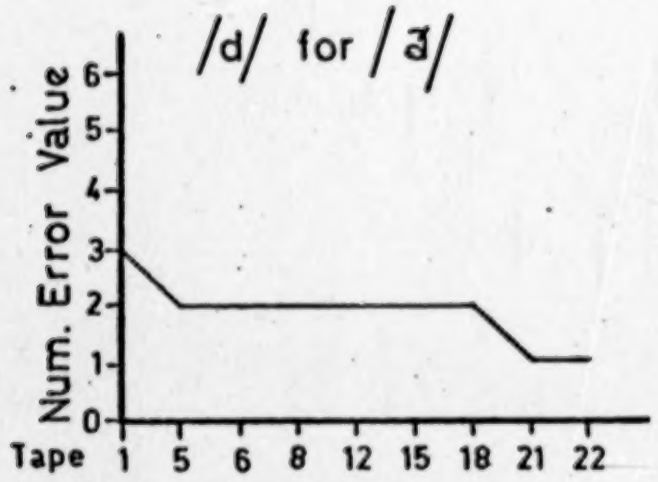
Occasional difficulties were encountered with the English [v]. Here again the interference seemed to be from Spanish, which, unlike French, does not possess this phoneme. The phonemes which he used in place of [v] were either its unvoiced counterpart [f] or else the Spanish bilabial fricative [β].

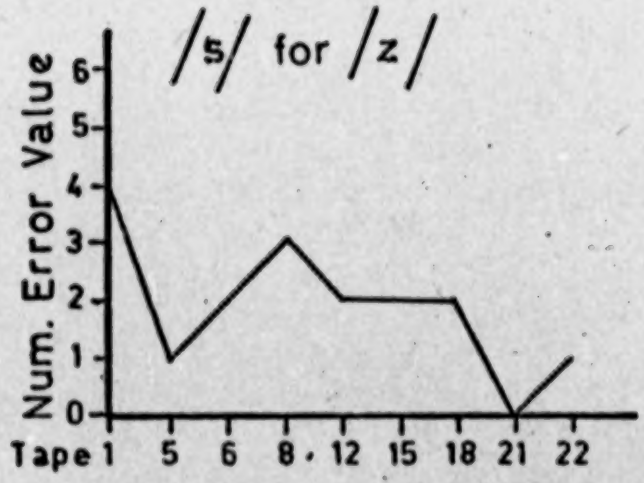
Table 12 shows the degree of monthly fluctuation of

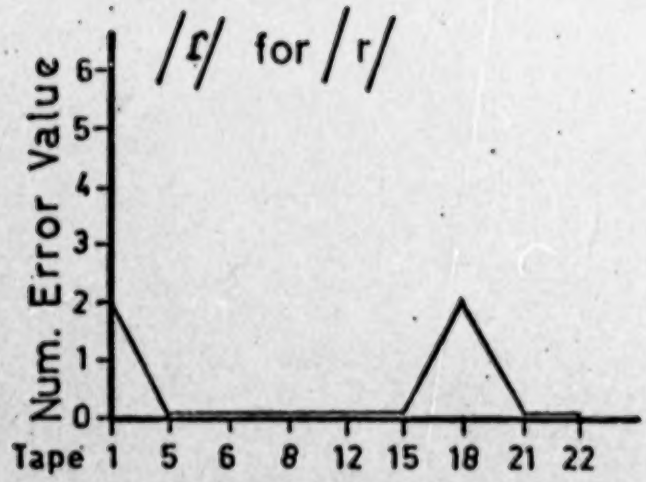
TABLE 12

MONTHLY PROGRESS IN MASTERY OF CONSONANTS









consonant errors. Of the four principal errors, non-aspiration fluctuates most widely and also shows the most improvement. Use of the English [ð] remains at a very steady level of errors, with no improvement at all until the last two tapes. There is some fluctuation in progress of mastery of the [z] phoneme, and although there is a noticeable improvement in Tape 21, in Tape 22 the error percentage has again increased, so it is difficult to determine if in fact this problem really shows much improvement. Errors involving the English /r/ did not occur frequently enough to show any tendency toward either improvement or otherwise.

In conclusion, it seems that [ð] and [z] are especially hard to master and remain a serious phonological problem, while aspiration, though very difficult at the beginning, shows definite signs of mastery towards the end. The English /r/ does not present much of a problem, nor do the other consonant errors encountered.

b. Vowels

(1) Description of Tables 13, 14 and 15a, 15b, 15c.

Table 13 summarizes the percentages of errors in vowels and glides and their distribution in the 22 tapes. These percentages were found in the same way as those for the consonants, that is, from a ratio of the number of occurrences of an error and the number of words in the taped selection concerned.

In order to find the rank order of all vowel errors, a numerical error value was assigned to each error percentage group. These were the same as those assigned to the consonant error percentages, with the addition of one more group to accommodate higher error percentages in vowels. The high group is for error percentages of 18-20% and the numerical error value assigned is 7. This rank order is given in Table 14.

Tables 15a, 15b and 15c show the monthly progress made in mastering the twelve most frequent errors involving English vowels and glides.

The tapes chosen for these tables were the same as those for the consonant errors, and numerical error values from Table 13 were used on the vertical bar to indicate frequency of errors.

(2) Interpretation of Table 13, 14 and 15a, 15b, 15c

Errors in vowels are far more numerous than those in consonants. There is wide fluctuation at high percentage levels in /i/ for /ɪy/ in the first ten tapes, and then this error stabilizes at an average error percentage rate of 0.1-2%, dropping to 0 in the last tape. Thus, production of the English /ɪy/ showed considerable improvement.

/i/ for/ɪ/ also had high percentage levels in the first ten tapes, and then also stabilized at an average error percentage rate of 0.1-2%. However, this error rose again to 6-8% and 3-5% in the last two tapes, casting doubt on the permanence of the previous improvement. /ei/ for /ɛy/ fluctuated from 0 to 9-11% in the first ten tapes, and then dropped to an error rate of 0 to 0.1-2% for the remainder of the tapes. In the last four tapes, only Tape 21 had this error, so it seems that this glide was very nearly mastered.

/e/ for /ɛ/ reached an error percentage as high as 9-11% in the first three tapes, then fluctuated from 0 to 3-5% through Tape 12, after which it did not recur.

TABLE 13

ERRORS IN VOWELS AND GLIDES

KEY TO ERRORS	% Errors	0	0.1-2%	3-5%	6-8%	9-11%	12-14%	15-17%	18-20%
	Num.Value	0	1	2	3	4	5	6	7
	Tape 1	3,7,10	4,5,8	1,6	9,12		2		11
	Tape 2	6,7,10,12	8	1,2	5,9	3,4	11		
1 /ɪ/ for /ɪy/	Tape 3	5,7,10,12	6,8	3,9	1	2,4,11			
2 /ʌ/ for /ɛ/	Tape 4	7,10	3,4,5,8	6	2,12		9,11		1
3 /ei/ for /ɛy/	Tape 5	3,7,8,10	6,12	4	5	2	1,9	11	
4 /e/ for /ɛ/	Tape 6	4,7,8	6,9,10	3,5	2,11	1,12			
5 /a/ for /e/	Tape 7	6,7,8,10	12	3,4,9	1	2,11	5		
6 /e/ for /ə/	Tape 8	5,6,7,8,10	4	3	2	11,12	9		1
7 /ɛ/ for /e/	Tape 9	6,7	3,4,8,9,10	2 5	11,12		1		
8 /o/ for /e/	Tape 10	4,6,7	8,10	2,3,5, 9,11,12		1			
9 /ai/ for /ay/	Tape 11	6,7,10	1,2,3,4,5 8,9,12		11				
10 /ə/ for /ɔ/	Tape 12	8,10	3,4,5,6, 7,11,12	1,2	9				
11 /o/ for /ow/	Tape 13	4,5,6,7,10	1,2,3,8,9 11,12						
12 /u/ for /ʊw/	Tape 14	3,4,6,7,8,10	1,2,5,9,11	11					
	Tape 15	4,5,6,12	2,3,7,8,9, 10,11	1					
	Tape 16	1,3,4,6,9,10	2,5,7,8,12	11					
	Tape 17	3,4,5,6,8, 9,10,12	1,2,11	7					
	Tape 18	4,6,8	1,2,3,5,7, 9,10,11	12					
	Tape 19	1,3,4,5,6, 8,9,10,12	7	2,11					
	Tape 20	3,4,6,8,10	1,2,5,7,9, 11,12						
	Tape 21	4,6,7,8,9, 10,12	1,3,5,11		2				
	Tape 22	1,3,4,6, 8,9,10,12	5,7,11	2					

This indicates that the English /ɛ/ was fairly definitely mastered.

/a/ for /æ/ fluctuated widely in the first ten tapes, from an error percentage of 0 up to 12-14%; then it remained steady at from 0 to 0.1-2% for the remainder of the tapes. This shows considerable improvement, but not mastery.

/e/ for /ə/ occurred almost exclusively in the first six tapes, occurring otherwise only in Tape 12. The error percentage was rarely more than 0.1-2%. /ɛ/ for /ə/ did not occur at all in the first eleven tapes, then ranged from an error percentage of 0 to 0.1-2% in the last eleven tapes. These two errors occurred together only in Tape 12; it appears that as the English /ɛ/ was mastered, it replaced the /e/ completely, even when used incorrectly for the schwa.

/o/ for /ə/ fluctuated between an error percentage of 0 and 0.1-2% for the first 16 tapes, then did not recur again. Of the four phonemes substituted for schwa, only two still caused errors in the final tapes. These were /a/ for /ə/ and /ɛ/ for /ə/. /o/ for /ə/ and /e/ for /ə/ ceased in the final tapes.

/ai/ for /ay/ had wide fluctuations of error percentages, from 0.1-2% to 12-14% in the first 12 tapes, then stabilized at an average rate of 0.1-2%. Improvement

in the mastery of this glide was clear, and the fact that there were no errors of this type in the last two tapes may indicate mastery of the English /ay/.

/a/ for /ɔ/ occurred only in Tapes 6, 9, 10, 15 and 18, and always at an error percentage of 0.1-2%.

/o/ for /ow/ was a very frequent error and occurred throughout the tapes. The error percentage was very high in the first nine tapes, ranging from 6-8% to 18-20%. From Tape 10 on, it stabilized at from 0.1-2% to 3-5%. Although there was a definite improvement in this error it still remained one of his main phonological problems.

/u/ for /ʊw/ fluctuated widely in the first ten tapes, ranging in error percentages from 0 to 9-11%. From Tape 11 through 20, this error stabilized at an average rate of 0.1-2%, and there were none in Tapes 21 and 22. This indicates probable mastery of the English glide /ʊw/.

Table 14 gives the rank order for all vowel errors occurring more than once. It is immediately apparent that most of the highest error scores are for five English glides, /iy/, /ɛy/, /ay/, /ow/ and /ʊw/, and three English simple vowels, /i/, /ɛ/, and /ə/.

Errors in English glides are attributed to interference from both Spanish and French, which have longer glides than English and in addition have three cardinal vowels, /i/, /o/ and /u/, which are rather similar to the

TABLE 14

RANK ORDER OF VOWEL ERRORS
(occuring more than once)

Type of Error	Error Score
/o/ for /ow/	60
/i/ for /ɪy/	53
/i/ for /ɪ/	49
/ai/for /ay/	39
/u/ for /ʊw/	29
/a/ for /ə/	27
/ęi/ for /ɛy/	22
/e/ for /ɛ/	18
/o/ for /ə/	10
/ɛ/ for /ə/	9
/e/ for /ə/	8
/a/ for /æ/	7
/au/ for /ɔ/	6
/a/ for /ɔ/	5
/o/ for /a/	5
/u/ for /ʊ/	4
/oi/ for /ɔy/	3
/ou/ for /ow/	3
/ɛ/ for /æ/	3
/ɪ/ for /ɪy/	2
/e/ for /æ/	2
/a/ for /ow/	2
/ɛ/ for /ɛy/	2
/au/ for /aw/	2
omission of /ɪy/	2

English glides /ɪy/, /ow/ and /ɒw/. Probably this very similarity has made it difficult for him to distinguish the differences between these vowels and the English glides, preventing early mastery of the latter. This is also perhaps an illustration of Vildomec's finding (1963) that there is a tendency towards simplification of the sound system of an L^e (foreign language) under the influence of the L^m (mother language).

The three occurrences of /ou/ for /ow/ also showed interference from the French and Spanish diphthongs /ou/. No definite reason was found for the occurrence of /a/ for /ow/. The two instances of omission of /ɪy/ were felt to be due to French and Spanish interference.

The English glides /ɛy/ and /ay/ are similar to the French and Spanish diphthongs /ei/ and /ai/, and this has probably also caused interference. /ɛ/ for /ɛy/ occurred once and was probably due to non-mastery or a simple performance error.

The English vowel /ɪ/ has no counterpart in French or Spanish, both of which have a single vowel /i/ in this position. Therefore, zero interference operated on this vowel, making it a totally new acquisition. /ɪ/ was twice used for /ɪy/; this error was attributed to non-mastery.

The English schwa /ə/ caused several different types of error, the principal one being the substitution of /a/

for /ə/. Although French does have a schwa, there was evidently not a complete transfer into English. In many cases, English orthography probably affected his pronunciation. Thus, English words spelled with the letters a, e or o, but requiring /ə/ in pronunciation, were frequently pronounced as they would be in Spanish, that is, giving these vowels the values of the cardinal [a], [e] or [o]. Even when, in the last half of the tapes, he has learned that e in Engiish is /ɛ/ not /e/, he continues to use /ɛ/ for /ə/ in many cases. Use of /ɛ/ for /e/ is due to Spanish interference, as French possesses both /e/ and /ɛ/.

The English /æ/ caused three different types of error: /a/ for /æ/, /ɛ/ for /æ/, and /e/ for /æ/. These errors were felt to be due to interference from Spanish and French, which do not possess this phoneme, but only the cardinal /a/. English spelling may have had some effect in the case of /a/ for /æ/.

English /ɔ/ caused two errors: /au/ for /ɔ/ and /a/ for /ɔ/. The interference was felt to be from Spanish, as French has a similar phoneme /ɔ/. English orthography may also have had a role in causing this error; it was especially obvious in the frequently recurring word because and in the word Australia, in both of which the letters au were pronounced as the Spanish diphthong /au/.

Use of /o/ for /a/ seemed to be a clear case of

influence of English spelling, as all of the errors were in words spelled with the letter o.

/u/ for /ʊ/ was due to interference from both other languages, as neither French nor Spanish has a phoneme like the English /ʊ/, but rather the cardinal /u/.

/oi/ for /ɔy/ was felt to be due to interference from French and Spanish diphthongs.

The English glide /aw/ produced only two errors, both in the word now, and both substituting the French and Spanish diphthong /au/.

Tables 15a, 15b and 15c show monthly progress and degree of fluctuation of the twelve most frequent vowel errors. Almost all showed a definite improvement during the nine months period in which the tapes were made.

/i/ for /iy/ fluctuates widely at first, then begins to improve steadily from Tape 12 on, and in the last tape no errors of this type occur.

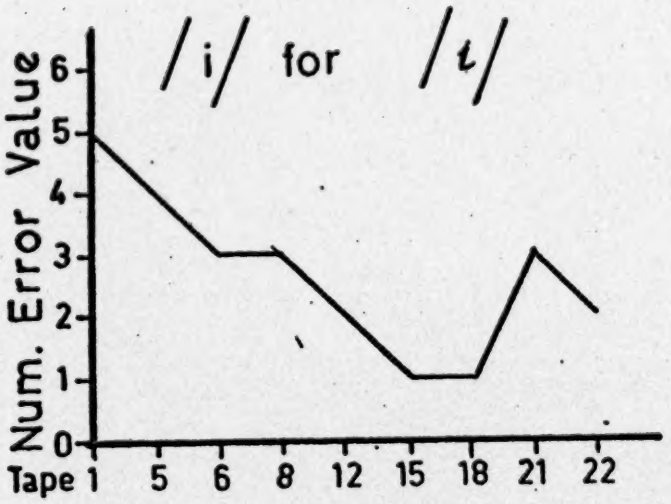
/o/ for /ow/ has an enormously high error percentage rate in the early tapes, then improves dramatically, but from Tapes 12 through 22 remains at a steady low rate with no further improvement.

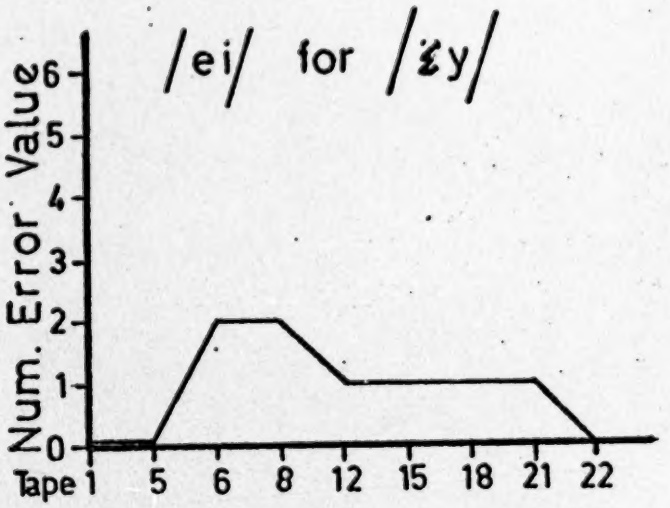
/ai/ for /ay/ fluctuates widely in the beginning, then improves steadily from Tape 8 on, with no errors at all in Tapes 21 and 22.

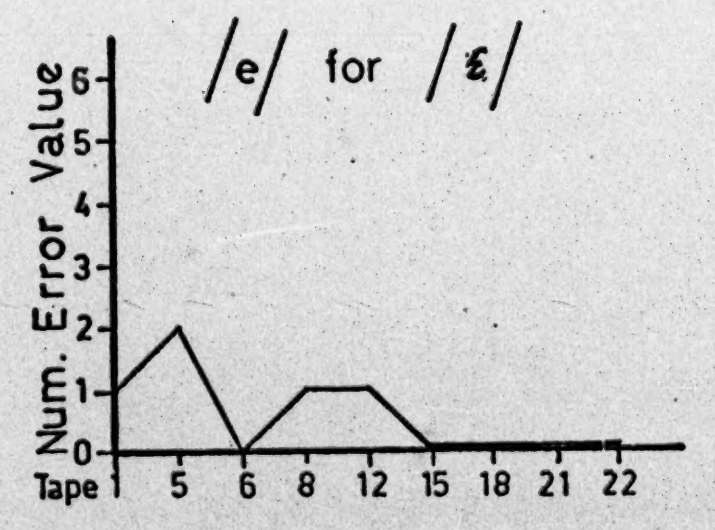
/u/ for /uw/ also fluctuates and does not show

TABLE 15a

MONTHLY PROGRESS IN MASTERY OF VOWELS AND GLIDES







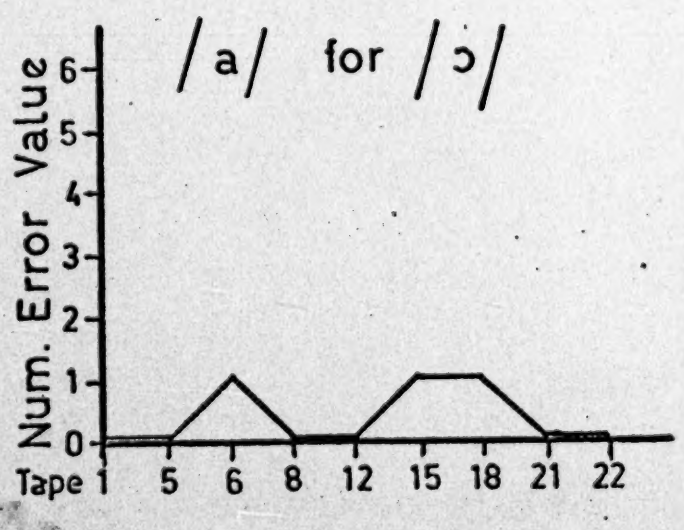
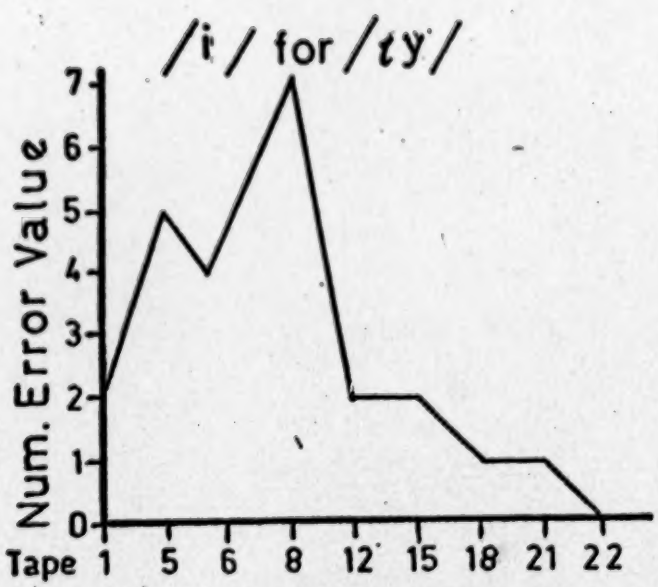
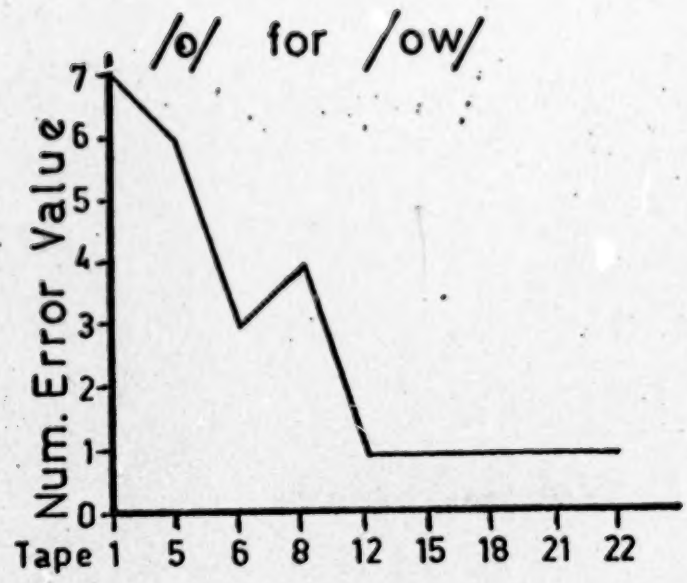
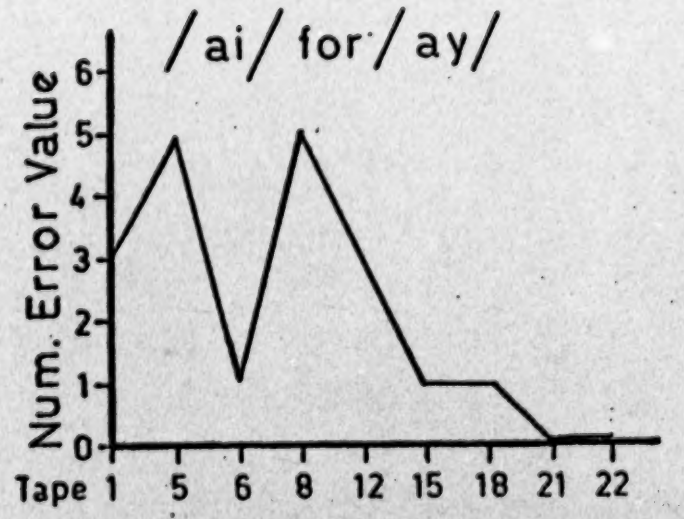


TABLE 15b

MONTHLY PROGRESS IN MASTERY OF GLIDES







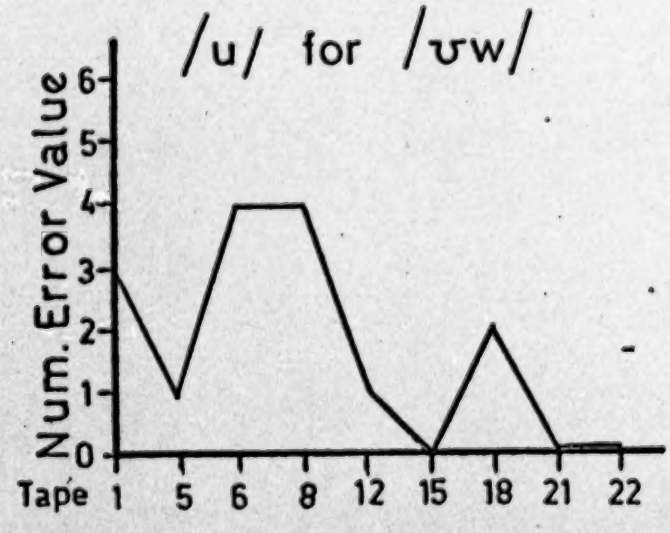
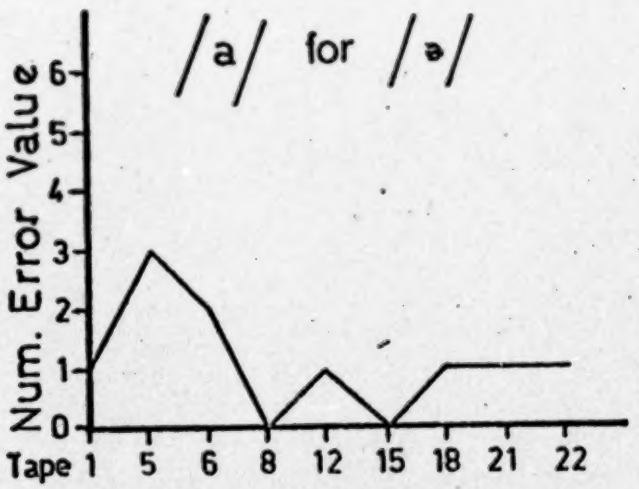
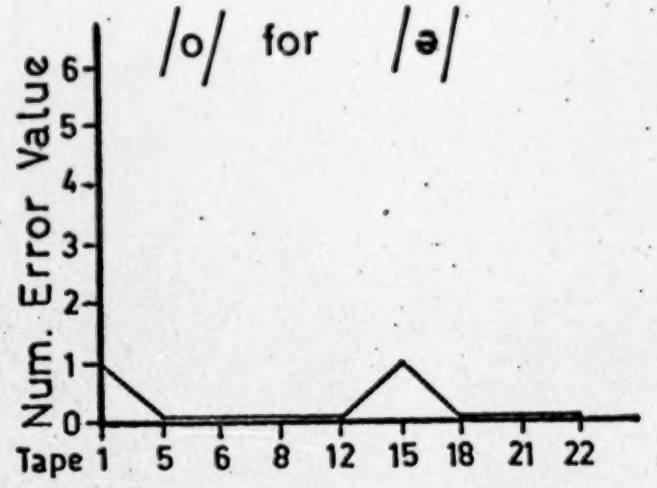
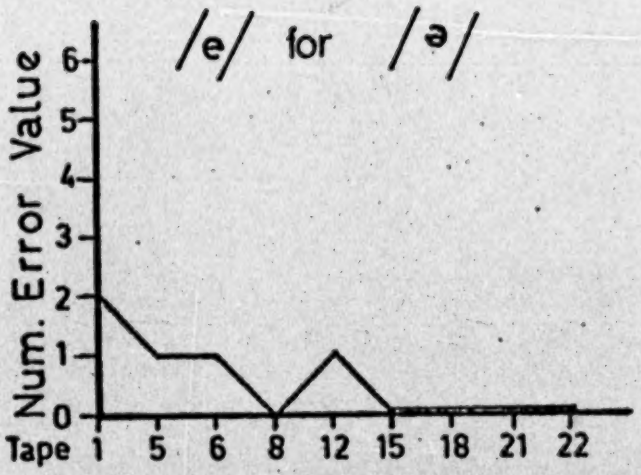


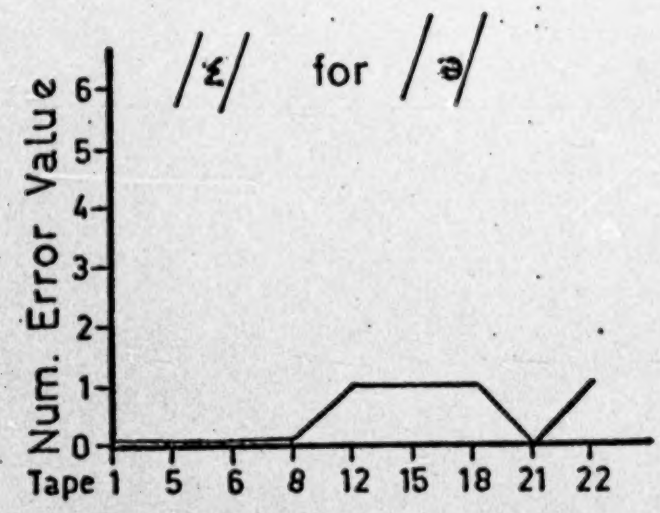
TABLE 15c

MONTHLY PROGRESS IN MASTERY OF SCHWA









lasting improvement until after Tape 18. There were no errors in Tapes 21 and 22.

/i/ for /ɪ/ started at a high percentage rate, then improved steadily through Tape 18. In the last two tapes, however, this error rose again.

/ei/ for /ɛɣ/ was not a problem in the early tapes, but in Tapes 6 and 8 it became a moderate problem, then fell to a low but steady error rate for the remainder of the tapes, with the exception of Tape 22, which had no errors of this kind.

/e/ for /ɛ/ fluctuated but never had high error percentages, and did not recur from Tape 15 on.

/a/ for /ɔ/ occurred only occasionally, and not at all in the last two tapes.

The English schwa /ə/ caused four different types of errors, and /a/ for /ə/ was the most frequent. It varied somewhat, but in the later tapes remained at a low and steady error rate. /o/ for /ə/ occurred only infrequently and not at all from Tape 18 on. /e/ for /ə/ and /ɛ/ for /ə/ should probably be considered together; the first occurred only in the first 12 tapes, and the second from Tape 12 on. This indicates that as he mastered the English /ɛ/, he simply substituted it for the previous /e/ in various words requiring /ə/.

In conclusion, the English glides which showed the

most improvement and possible mastery at the end of the tapes were /ɪy/, /ɛy/, /ay/, and /ʊw/. /ow/ improved considerably, but was definitely not mastered. /aw/ and /ɔy/ never presented serious learning problems.

Errors in simple vowels which never occurred too frequently and seemed to be mastered by the last tapes were /ɛ/ and /ɔ/. Of the four errors involving schwa, only two were present at the end, /a/ and /ɛ/ for /ə/. /ɪ/ improved for most of the tapes, but in the last four caused an increased number of errors, so that this phoneme was definitely not mastered.

c. Suprasegmentals

(1) Description of Tables 16, 17 and 18.

Table 16 gives the distribution of error percentages for suprasegmentals in the 22 tapes. These percentages were obtained in the same manner as those for consonant and vowel errors.

A numerical value was assigned to each percentage group. These were the same as those used for consonant and vowel errors, except that the highest numerical error value is 5, because there were no error percentages higher than 12-14%. Table 17 gives the Error Score, or sum of numerical error values for errors in stress and pitch.

Table 18 summarizes the monthly progress made towards mastery of English stress and pitch.

(2) Interpretation of Tables 16, 17 and 18

The occurrence of errors in pitch and stress (Table 16) shows a good deal of fluctuation in the first seven tapes, then settles to a low but steady error percentage rate of about 0.1-2%. There were higher error rates in stress than in pitch in almost all the tapes.

A ranking of the two suprasegmental errors encountered (Table 17) shows that errors in stress occurred more frequently than errors in pitch. This indicates that the overall intonation pattern in English was easier for him to acquire than stress patterns of specific phonological groups. These errors were felt to be mostly due to interference from either French or Spanish. Although there are typical pitch patterns of both French and Spanish which have been carried over to English, Spanish pitch patterns were somewhat more frequent. Spanish stress patterns of alternating strong and weak stress were also a great deal more frequent than the French pattern of strong stress on final syllables of phonetic groups.

Table 18 shows that errors of both stress and pitch remained fairly steady from month to month. In both types, Tape 6 had a peak of errors; the rest of the tapes until Tape 21 had identical low error percentages.

TABLE 16
ERRORS IN SUPRASEGMENTALS

%Errors	0	0.1 - 2 %	3 - 5 %	6 - 8 %	9 - 11 %	12 - 14 %
Num. Value	0	1	2	3	4	5
Tape 1		Stress	Pitch			
Tape 2	Pitch	Stress				
Tape 3			Stress, Pitch			
Tape 4	Stress, Pitch					
Tape 5		Stress, Pitch				
Tape 6			Pitch	Stress		
Tape 7	Pitch					Stress
Tape 8		Stress, Pitch				
Tape 9		Stress, Pitch				
Tape 10		Stress, Pitch				
Tape 11		Stress, Pitch				
Tape 12		Stress, Pitch				
Tape 13		Stress, Pitch				
Tape 14		Stress, Pitch				
Tape 15		Stress, Pitch				
Tape 16		Stress, Pitch				
Tape 17	Stress, Pitch					
Tape 18		Stress, Pitch				
Tape 19	Stress, Pitch					
Tape 20		Stress, Pitch				
Tape 21	Stress, Pitch					
Tape 22	Pitch	Stress.				

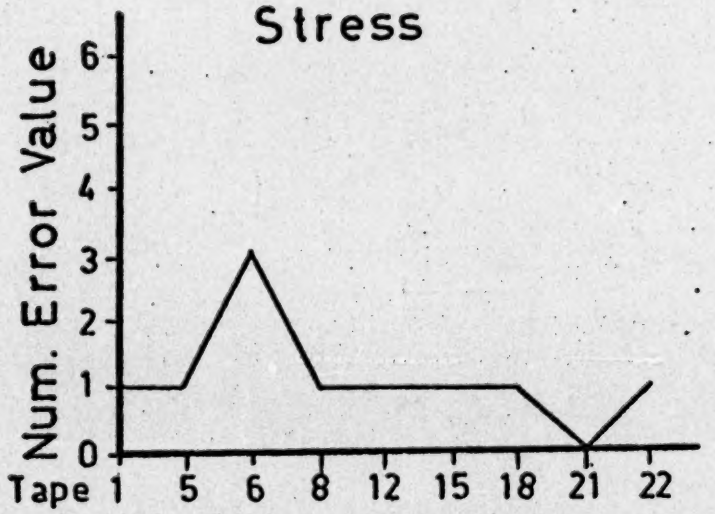
TABLE 17

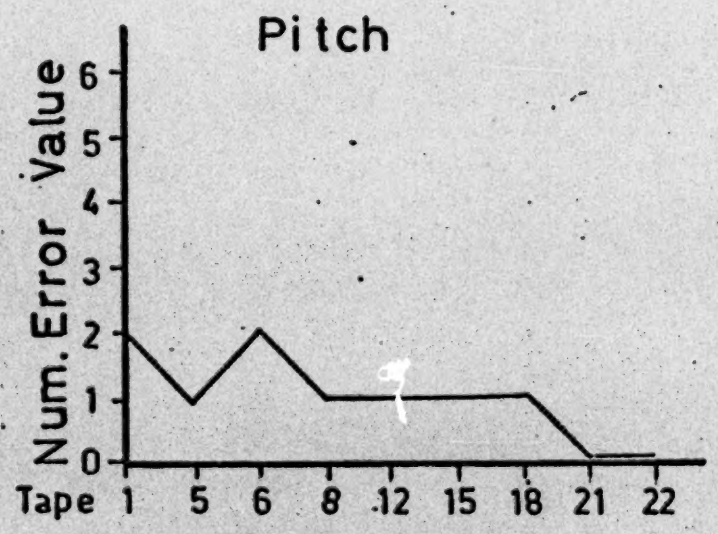
RANK ORDER OF SUPRASEGMENTAL ERRORS

Type of Error	Error Score
stress	25
pitch	18

TABLE 18

MONTHLY PROGRESS IN MASTERY OF SUPRASEGMENTALS





There were no suprasegmental errors in Tape 21, but this does not seem to indicate mastery, for errors in stress occur again in the final tape.

In conclusion, English stress patterns show improvement but not mastery, while pitch patterns show a similar improvement and possible mastery in the last two tapes.

d. Remarks

The teacher of English as a second language to elementary age children has a unique opportunity for teaching phonology, because young children still retain a great deal of their early ability in accurate phoneme production which is lost by adolescence (Deese, 1970). In this area, of course, the importance of environment is crucial, for the child must hear enough natively spoken English to establish firm models of the English sound system. In addition, if the teacher is aware of which English phonemes will probably prove most difficult to master, listening and speaking exercises can be planned accordingly.

In the case of a French and Spanish speaking child, problems of interference can be intensified because of vowels in these two languages which are nearly identical to each other, but only similar to their English counterparts. Examples of this type of double interference would be the cardinal vowels of French and Spanish, /i/, /e/, /o/ and /u/, which Jean-Marc frequently used in place of the English /ɪy/, /ɛ/, /ow/ and /ʊw/.

Other English glides could also suffer interference from French and Spanish diphthongs similar to them.

Another type of interference termed "zero interference" by Stockwell and Bowen (1965) is that in which a completely new phoneme must be grafted onto an existing sound structure. This is not an easy procedure, even for a child as young as ten, for by this age he has learned to perceive almost exclusively the phonemes he has heard since infancy. However, the acquisition of totally new phonemes can be successful, as demonstrated by Jean-Marc's near mastery of [ð], [z], and aspiration after initial /p/, /t/ and /k/.

Six English phonemes which presented some learning difficulties were traced to interference from Spanish only. These were [z], English retroflex /r/, [v], [ə], [ɔ], and [ɛ]. With the exception of the /r/, all of these phonemes have very close counterparts in French, but it appears that even so they were not completely transferred to English. In these particular cases, his second language had a stronger influence on his English than his first language. The teacher of English to the Spanish-speaking child might find that these six phonemes present special learning problems.

Another form of interference which can probably be traced to Spanish rather than French is that of orthography. At this particular time, Jean-Marc was far more literate in Spanish than in French, and therefore accustomed to a language

whose graphemes are more closely related to its phonemes than either French or English. During the time of the study, his best school subject, in spite of his difficulties with reading, was in fact Spelling, so it seems probable that his production of some English words was influenced by his familiarity with their printed form, which he rendered with the Spanish phonemes corresponding to certain letters. This was found in some errors involving [æ], [a], [ə] and [ɔ].

The types of phonological interference encountered are summarized below:

French and/or Spanish Interference	Zero Interference	Spanish Interference	
		Phonologic	Orthographic
/ɪy/	/ð/	/z/	/æ/
/ɛy/	/ɹ/	/r/	/a/
/æ/	aspiration	/v/	/ə/
/ay/		/ə/	/ɔ/
/aw/		/ɔ/	
/ɔy/		/ɛ/	
/ow/			
/ʊ/			
/uw/			
stress			
pitch			

In addition to these errors caused by interference, there were a few which could not be attributed to interference and were thought to be performance errors.

The acquisition of the English sound system has two major elements, that of perception and production. The student needs to be able to perceive English phonemes accurately, rather than merely equate them with their

nearest counterpart in his native language. After being able to hear the difference between minimal pairs such as bit - beat, he needs to learn to produce them well enough to be easily understood by a native speaker of English.

For elementary age children, many phonological drills which might prove tiresome to older students can be used profitably. Listening to pairs which they must classify as "same" or "different", such as in the phonological subtests of Cervenka's Tests of Basic Language Competence in English and Spanish (1969), could be played as a game.

Minimal pair drills can also be used in the production of English phonemes, as well as a great deal of imitation of the teacher's models. For some phonemes it might be advisable to provide some mechanical devices to aid in their production. For instance, children can learn to aspirate after initial /p/, /t/ and /k/ by holding a lighted candle in front of their mouths and making the flame flicker when they say words such as pen, ten, kick. The same effect can be achieved less dramatically by holding a hand close to the mouth so that the puff of air accompanying aspiration can actually be felt.

A similar mechanical device can be used to help children know the difference between voiced and unvoiced phonemes; by actually touching their larynx while producing pairs such as [s] - [z], [θ] - [ð], [f] - [v], they

can feel when their vocal cords are vibrating. The three phonemes [z], [ʒ], and [v] seem to be especially difficult for the Spanish speaking child, so that it might be helpful to pair them with their unvoiced counterparts as a learning device. In the case of [v], this would at least separate it from identification with the Spanish bilabial fricative [β].

In addition to work on single phonemes, it is important to work on phonological phrases and on whole sentences in order to teach English pitch and stress. In this type of pattern practice, the tape recorder and language laboratory can be of practical assistance to the teacher.

In the case of Jean-Marc, more rapid acquisition of the English phonological system would probably have occurred if he had received special help in his areas of greatest difficulty. Even though he had the advantage of being in an environment of native speakers of English, and thus had constant models for imitation, the phonological habits of French and Spanish made it difficult for him to master some parts of the English sound system.

CHAPTER V

CONCLUSION

1. Rationale and Method

The purpose of this study has been to identify and explain the learning problems encountered by a French and Spanish speaking child in acquiring English as his third language. The method of approach has been essentially an error-based one, leaning heavily on contrastive analysis of the three languages involved. This has proved helpful in explaining errors due to interference, which accounted for about two-thirds of grammatical errors and almost all phonological errors.

It was found, however, that not all errors which could have been predicted on the basis of contrastive analysis, did in fact occur. This is in line with recent comments by Richards (1970 and 1971) and Wardhaugh (1970).

Richards (1970) distinguishes between intralingual and developmental errors, and interlanguage ones, which are caused by interference. This is the same distinction made in the present study between errors due to interference and those due to non-mastery. Richards feels that contrastive analysis focuses on points where the languages differ, and that these may

not be the most frequently occurring or significant items in the language being studied. In a subsequent study (1971), he finds that many second language errors are similar to first language acquisition ones. An interesting feature in this study is his description of how students who must communicate in a partially known language invent learning strategies, such as using words like yesterday or tomorrow as tense markers, rather than the appropriate verb forms.

Wardhaugh (1970) questions the value of contrastive analysis in prediction of difficulties and feels that it is useful mainly in accounting for observed difficulties in second language learning. This was how contrastive analysis was used in the present study.

2. Summary of Findings

This study revealed that during his first nine months of English acquisition, the subject's principal learning problems in order of frequency under each heading were:

Grammar

Omission of constituents

Verb forms - Present for other tenses

Sentence Formation - Subordination and embedding

Article Usage

Preposition Usage

Sentence Formation - Interrogative

Sentence Formation - Negative

Verb Forms - Person

Noun Forms - Number

Phonology

[o] for /ow/

[i] for /ɪy/

[i] for /ɪ/

[d] for [ð]

non-aspiration

[s] for [z]

[ai] for /ay/

[u] for /ʊw/

[a] for /ə/

stress

[ei] for /ɛy/

[e] for [ɛ]

pitch

About three fourths of omitted constituents were found due to interference; the omission of it and the AUX do accounted for the majority of cases and were a result of zero interference, as these categories do not exist in either French or Spanish. There was some omission of the copula be, attributed to non-mastery. Richards (1971) finds that omission of the copula is a typical error for learners of English as a second language no matter what the first language, and therefore this error cannot be attributed to specific interference.

On the other hand, use of present for other tenses was clearly a case of non-mastery, as simplification of the grammatical categories seems to be a feature not only of second but also of first language acquisition, because, as pointed out by Deese (1970), very young children do not use markers for tense.

Errors in subordination and embedding were about evenly divided between those caused by interference and those caused by non-mastery. The most prevalent error due to interference was the use of interrogative word order in relative clauses; both French and Spanish patterns contributed

double interference. Omission of the relative pronoun, however, seemed to be due to non-mastery, and in this connection Loban's finding (1963), that competence in use of subordination increases with age amongst native speakers, may be relevant.

Redundant articles and omission of the indefinite article were found to be due to interference, while omission of the definite article was not. Most preposition errors were due to use of the wrong preposition, which could have been expected, given the difference in usage and areas of meaning of equivalent prepositions in the three languages.

In the formation of interrogative sentences, the two principal problems were omission of the AUX do and declarative word order. It was felt that both were due to interference; in the case of the first because there is no empty carrier like do in either French or Spanish, and in the case of the second because both other languages can express questions by intonation alone in many contexts where English requires interrogative word order. Richards (1970) feels that this particular error is an intralingual and developmental one because it is found in almost all students of English, whatever their first language background. It could be argued, however, that these are examples of zero interference, where no similar category exists in the first language, whatever it may be. He suggests that the English interrogative transformation often remains unmastered simply because

it is not necessary for effective communication - a question word plus a statement or even intonation alone is sufficient to convey the meaning. This argument, however, could be used with many aspects of language, which is full of redundancies that aid comprehension and are considered essential elements by native speakers.

Difficulties with negative sentence formation were also attributed to interference. Most errors involved the use of no for AUX + not, and in most cases the AUX omitted was do. There was some use of double negatives, but not nearly as much as might have been expected given the French and Spanish patterns.

Errors in verb person were almost all the omission of s in the third person singular, and were attributed to non-mastery. Here the reason seems to be simplification of the new morphological system; since most verb persons have identical present forms, he over-generalized this rule to make it include even the third person singular,

Errors in noun forms were almost all due to use of the singular for the plural, and it was felt that this was due to phonological interference from his other two languages. This view is contested, however, by Dušková, who made a study of adult Czech learners of English (1969) and found this a common error which was in no way related to Czech, thus proving wrong, in her opinion, those French teachers who claim that their students of English do not produce English noun plurals because of the influence of spoken

French. She does not, however, find any other explanation for this error, and classifies it as a performance error.

It is assumed that most phonological errors were due to interference, because it was felt that the subject had internalized the sound systems of French and Spanish to such an extent that he heard English phonemes as their nearest French or Spanish equivalents. This was especially obvious in English glides which in the beginning were produced as French and Spanish cardinal vowels or diphthongs. Spanish seemed to have a stronger influence on phonology than French, for several phonemes having close counterparts in French (/ə/, [ɛ], [z]) were not at all easily mastered. Zero interference operated on a few items, such as /ɹ/, [ʒ], and aspiration after initial /p/, /t/, and /k/.

The subject seemed to have been young enough to be able to imitate English intonation contours fairly well, though there was a significant number of errors in pitch and stress which could be traced to either French or Spanish. Vildomec (1963) found that intonation and rhythm patterns were persistently influenced by the L^m (mother language), although he found that some multilingual speakers had an "incorrect accent" in all of their languages, including their first language. In the case of the present study, this seems to be only partially true, for the subject's French (his mother language) has always been of a very high phonological standard, while his Spanish did show some phonological interference from French.

In considering interference when more than two languages are involved, it would be useful to be able to measure the interlingual distance between them, as suggested by Mackey (1971). The degree of relatedness between languages has a strong effect on amount on interference, according to Vildomec (1963). Thus, the combined effect of two related languages such as French and Spanish could have a greater influence on a third language such as English than might two unrelated languages.

3. Implications for Teaching

By understanding the nature of interference, a teacher of English as a second or third language can profitably use contrastive analysis in planning for and predicting students' learning problems, keeping in mind, however, that not all of these problems may materialize.

An idea of the hierarchy of difficulties can be useful in planning priorities of different learning activities. Both Vildomec (1963) and Dušková (1969) feel that the most difficult items to acquire in a new language are those categories which are non-existent in the first language(s). Next in order of difficulty are items on which interference between two related languages operates, though according to Vildomec, these errors may fall within the "correct" range of the foreign language, unlike the interference from an unrelated language.

An awareness of the manner in which a child learns his first language can help the second language teacher by revealing which parts of the first language are the most difficult to acquire. The teacher of English as a second language to elementary children can then defer the difficult structures until a later date, or else at least plan to spend extra time in teaching them.

4. Afterword

In considering the acquisition of a third language, one is presented with the question of whether or not multilingualism is desirable for a child. It is this author's feeling that the answer depends on the child and the circumstances.

When the learning of a new language is accompanied by frequent changes of school, language of instruction and country of residence, the total effect can be emotionally upsetting. In the case of Jean-Marc, this was apparent in his difficulty in making friends.

Multilingualism contributed to this problem in that it helped make him always a foreigner and therefore difficult for the other children to accept. In South America, his Spanish had some French interference, enough to set him apart from the other children. In the United States and

later with American children overseas, his English was not that of a native speaker, and therefore he was not quite one of the group. He himself feels quite at home in Switzerland and his French is certainly that of a native speaker, though less mature than that of French-speaking Swiss children of similar educational background. If he were to attend school in Switzerland, he would certainly be hampered academically by the fact that French has never been his language of instruction.

It is probably too soon, however, to judge possible advantages or disadvantages of multilingualism in the case of Jean-Marc. Depending on his way of life as an adult, knowing three languages and having an international rather than a national outlook, could either help him experience a richer and more rewarding life, or it could continue to contribute to a feeling of alienation from a monolignual majority with roots in a single culture. From recent conversations, it appears that the first alternative may be more likely, as Jean-Marc says that when he grows up he would like to have a job that involves travelling and living in other countries.

If this is the case, then multilingualism and multiculturalism will have given Jean-Marc advantages which perhaps outweigh disadvantages such as loss of a school year, and the time and effort spent on acquiring languages

which could have been used in perfecting a single language and building close group ties.

In the time that has elapsed since this study was completed, Jean-Marc has continued to work at grade level. He completed fifth and sixth grades at the American School of Kinshasa, and entered Seaford College, a British secondary school, in September, 1971.

He now speaks English with both parents and makes only occasional errors in grammar and phonology. As mastery of English has increased, it is interesting to note what has happened to his other two languages. Spanish is dormant, as there has been little need for it since the family left South America. That it is not completely forgotten is shown by the fact that he was able to understand and speak it with Chilean friends in Kinshasa.

His year and a half in the Congo with constant exposure to a French environment, as well as frequent visits to relatives in Switzerland and Belgium, have served to maintain and even improve his French. He does, however, speak English with his father now, except when they are in Switzerland. He is now a coordinate bilingual in French and English. Whether his Spanish could be revived to the same level of his other two languages would probably depend on environment and motivation.

The extent of his present mastery of English may be judged by this poem, written for an English assignment in October, 1971:

The Old Man

There sits an old man
Watching the glorious view,
Waiting for his death yet to come
And listening to the reindeers galloping away
The old man, waiting for his death yet to come,
Sees the sunset.
Yet thinking over his childhood days,
While the sunset is thinly seen beyond the Horizon
Brings back his memories as clear as a child could
Have
The memories brings tears to his eyes
Like pieces of diamonds, dripping
On the ground and vanishing quietly.
Each chip of tears coming slowly as ever.
He hears grandfather's call from the beautiful dark sky,
Full of tinkling stars, unforgetable from
his childhood memories.
Shivering now he is, forced to close his memories.
He grips hold of the hands of his wife,
Shuts his eyes slowly his heart beat stops.
His wife's scream is heard by the animals
Back from their Hunting nights.

--Jean-Marc Chamot

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